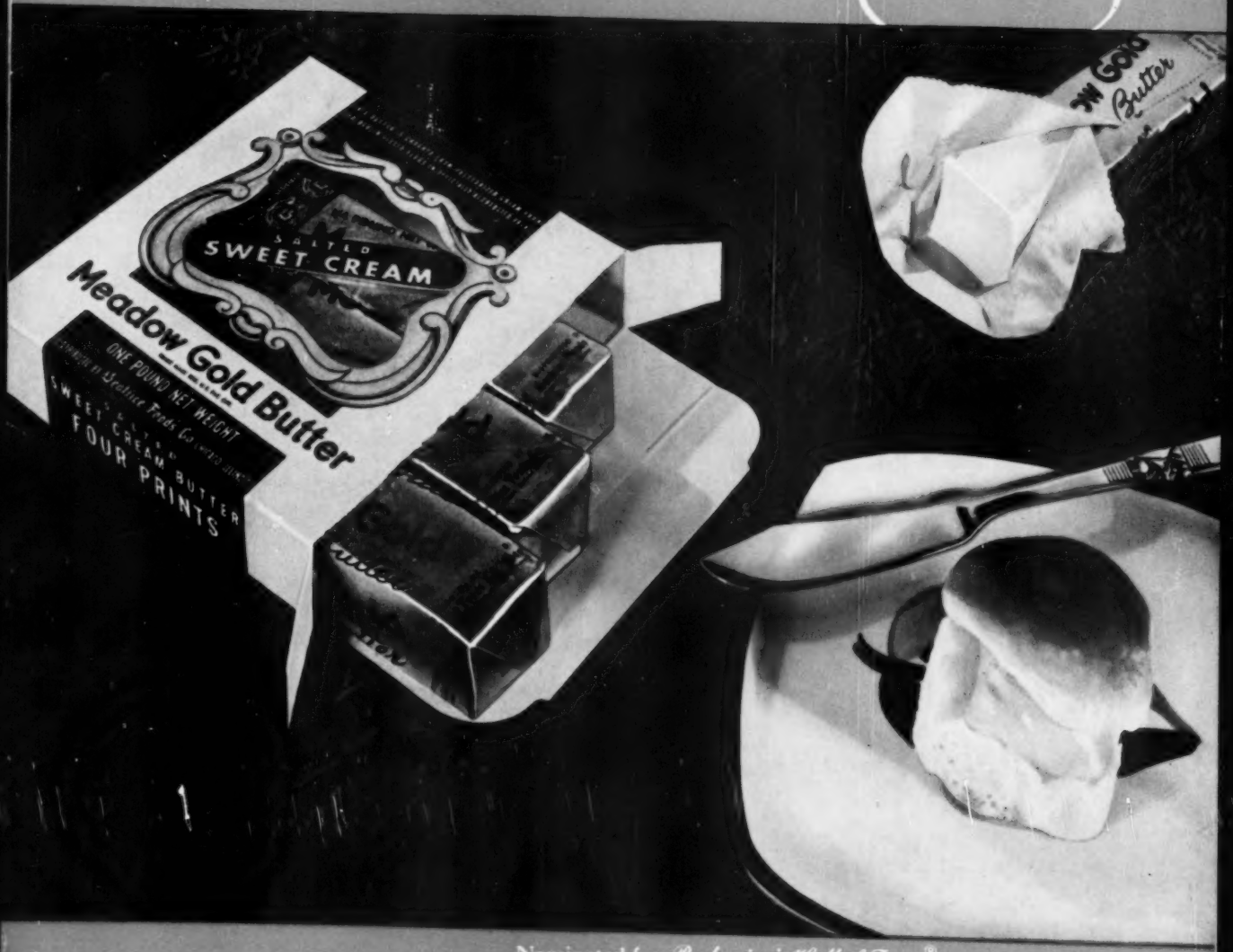
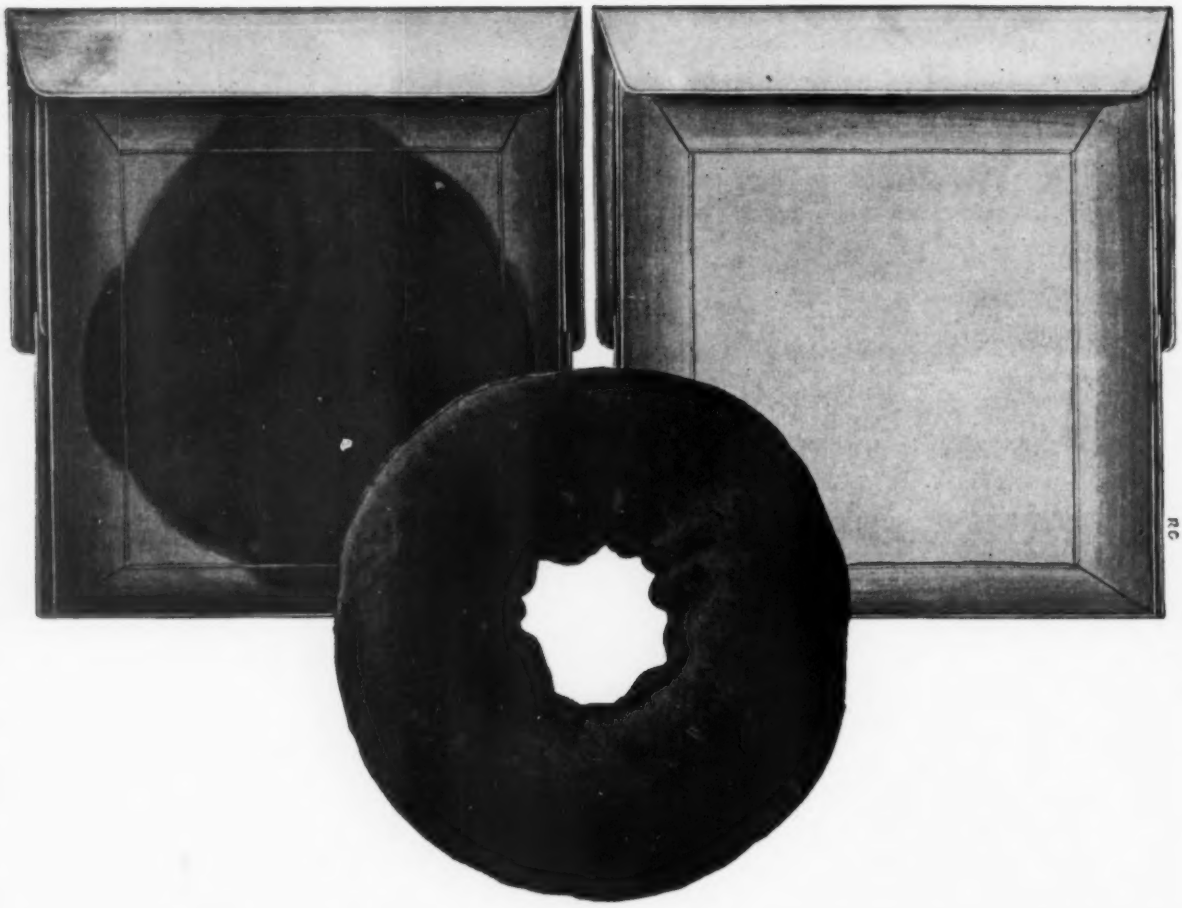
Modern packaging



Nominated for *Packaging's Hall of Fame*®. Story on Page 120

October 1953



WHICH BOX HELD THE DONUT?

The grease stained box on the left?—or the clean, appetizing box on the right?

Answer: Both of them!

Yet, both boxes are made of the same boxboard.

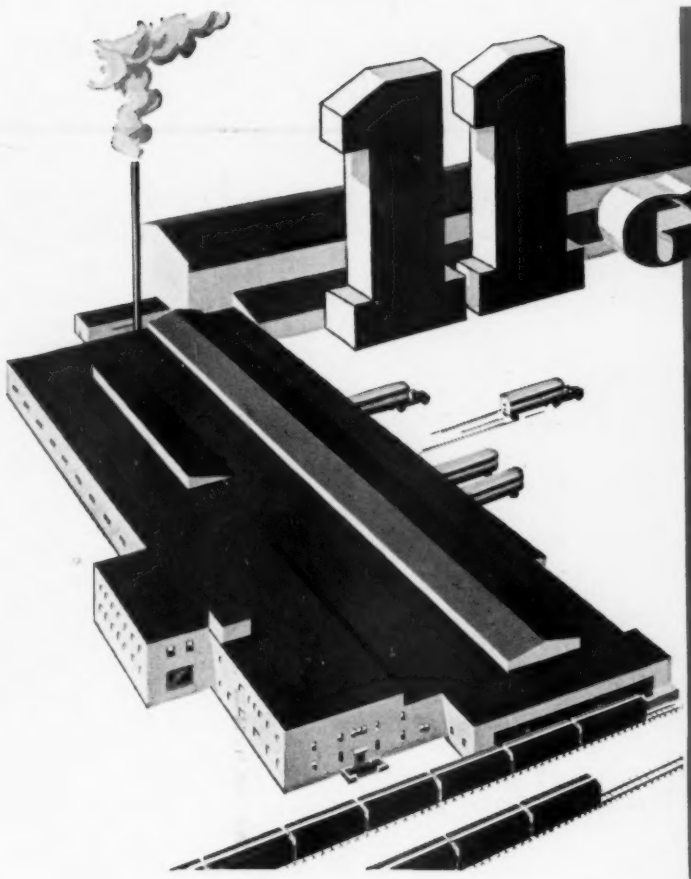
The difference?

The clean, appetizing box is coated with a wonderful new greaseproof coating just developed by National.

Ask your National representative for details.

RESYNS®
National
ADHESIVES

NATIONAL STARCH PRODUCTS INC. • 270 Madison Avenue, New York 16, N. Y.



11 GAIR PLANTS

specialize in

SHIPPING CONTAINERS

BOGOTA, N. J.

CAMBRIDGE, MASS.

CLEVELAND, OHIO

HOLYOKE, MASS.

MARTINSVILLE, VA.

NO. TONAWANDA, N. Y.

PHILADELPHIA, PA.

PORTLAND, CONN.

RICHMOND, VA.

SYRACUSE, N. Y.

TETERBORO, N. J.

Offer Neighborhood Service

You get fast, assured delivery when you order containers from one of these plants. Whether your order is for 100 . . . 100,000 . . . or more. Here's why: Of the many Gair plants, these 11 are set up *exclusively* for shipping container production. Each one has the men, machines, and material needed for your job —backed up by Gair's 89-year record of customer satisfaction. Check the listing to see which plant is in your neighborhood. Call on that plant for your corrugated or solid fibre shipping containers; you'll get the material you want when you want it.

Do you have your copy of the Container Handbook? If not, write to Department 22.

EST. 1864

GAIR

SHIPPING CONTAINERS
FOLDING CARTONS
PAPERBOARD

ROBERT GAIR COMPANY, INC. • 155 EAST 44TH STREET • NEW YORK 17

Modern packaging

Vol. 27 No. 2 October 1953

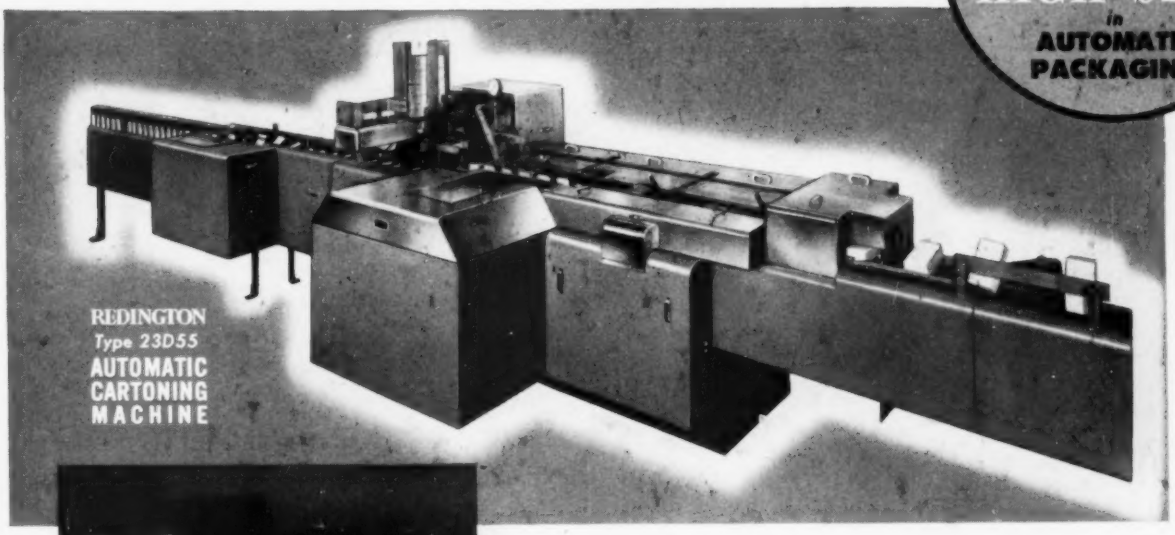
Technical

Departments

 Published monthly at Emmett St., Bristol, Conn. Subscription rates: United States and Canada, $6 one year, $11 two years, $15 three years; Pan America, $8 one year, $13 two years, $17 three years; all other countries, $12 one year, $20 two years, $28 three years. All foreign subscriptions payable in United States currency or equivalent in foreign currency computed in current exchange by money order or by draft on a New York bank. Price this issue, 75 cents per copy (foreign, $1.25). Printed in U. S. A. Acceptance under Sec. 34.64 P. L. & R. at Bristol, Conn. Authorized Dec. 21, 1950.

How many sizes in your line?

another REDINGTON MACHINE HIGH SPOT in AUTOMATIC PACKAGING



THIS REDINGTON CARTONS FOUR

Yes—you can handle a multiple-size line with just one fully automatic cartoning machine. LEDERLE LABORATORIES DIV. of American Cyanamid Co. can carton four sizes with this versatile REDINGTON Type 23D55 in their Pearl River, N.Y., plant . . . and make the changes in just about "nothing flat". Here is how the REDINGTON performs its fast, efficient, labor-saving operation:

Filled, capped and labeled bottles are conveyed past carton magazine. The machine feeds and opens a carton, inserts the bottle (which it has laid horizontally in the conveyor pocket), and closes the carton by tucking in the end-flaps. The tuck-in portion of the bottom end-flap is strip-glued.

At the next station, the continuously moving carton is printed on the side panel with lot number and expiration date. The REDINGTON discharges the completed package standing upright.

There's a REDINGTON for just about any automatic cartoning job you can think of. Often standard types will serve perfectly, and special attachments make even quite complex-appearing assignments easy to handle. For the unusual job, experienced REDINGTON engineers can custom-design exactly the right machine to produce precision-sealed packages fast, efficiently, and with the economy only labor-saving automatic equipment can give you.

SEND FOR THIS 32-PAGE ILLUSTRATED CATALOG

Detailed information about the many REDINGTON standard and special machines, and how they are used for AUTOMATIC PACKAGING of everything from Codfish to Razor Blades. Write to our nearest office today for your free copy.

Whatever your field, and whether your production is huge or moderate, you will find the right REDINGTON a profit-making investment. REDINGTONS are built for long, trouble-free production life with such features as Ground and Polished Shafting . . . One-Piece Cast Iron Frames . . . Shafting turning in Self-Aligning Roller Bearings . . . and others. Check *your* situation with us now!

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AUTOMATIC MACHINES for CARTONING . . WRAPPING SPECIAL PACKAGING
– since 1897 –

F. B. REDINGTON CO.
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342 Madison Ave., Room 828A, New York 17, N. Y.

Published by *Modern Packaging Corp.*
Executive and Editorial Offices
575 Madison Ave., New York 22, N. Y.
Telephone: PLaza 9-2710

MODERN PACKAGING is regularly indexed in *Industrial Arts Index*.

Modern packaging

The buyer's viewpoint

THIS ISSUE OF MODERN PACKAGING takes particular note of recent developments in industrial and shipping packaging, and it is easy to see that this sector of the field, long overlooked by management, has become a genuine force. But it would be a serious mistake to think that improvements that look good to the shipper will necessarily look good to the receiver—particularly if the product is one that goes into an industrial production operation.

Factory operations, as we all should know, tend to become highly standardized. The average factory receiving room is far less amenable than the average housewife to figuring out the whys and wherefores of a new package.

Writing in the August issue of *Purchasing* magazine, Dewitt Haines makes a forceful plea for two-way liaison between the industrial customer and the industrial packager.

Great strides have been made, he points out, in developing packages that protect even the most awkward or fragile products from damage in transit and keep shipping weights and costs to a minimum. That's fine. But so often this "better" package presents unforeseen problems on receipt, in handling, unpacking, getting the materials to the stock room or the production line. The package may be too large, too small, too heavy, too awkward, or just plain puzzling because of some gimmick that the receiving people haven't encountered before.

Let the vendor ask, Mr. Haines suggests, and let the customer say what kind of packaging is desired. Let specifications be agreed upon. He tried it in his own purchasing department and, besides several very important savings in materials-handling labor costs, lowered the ratio of intra-plant accidents and cut by 25% damage losses attributable to repeated handling of incoming packages.

Packaging and shipping costs are of course important. But since it is the customer who ultimately pays these costs, shouldn't he have something to say about the way his supplies are readied for shipment?

The Editors

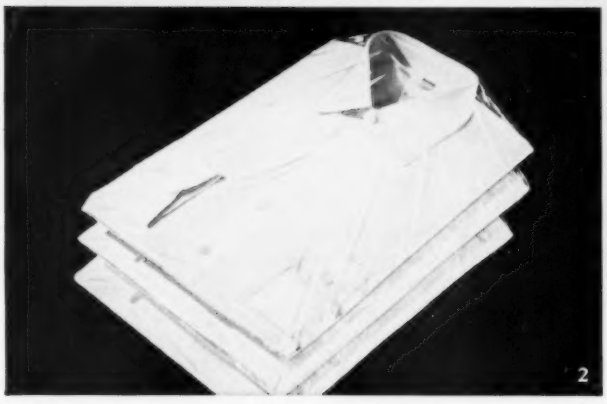
Not just pretty good, kiddo... *terrific* is the word for Gerber's exciting new sampling program. It's a family of four miniature packages, all using Gerber's familiar package design. Colorful envelopes of polyethylene coated paper by Dobeckmun combine the kind of brand identification and sales appeal that give Gerber's a flying headstart at the point of sale. For better packaging ideas... bigger sales... get in touch with us today.

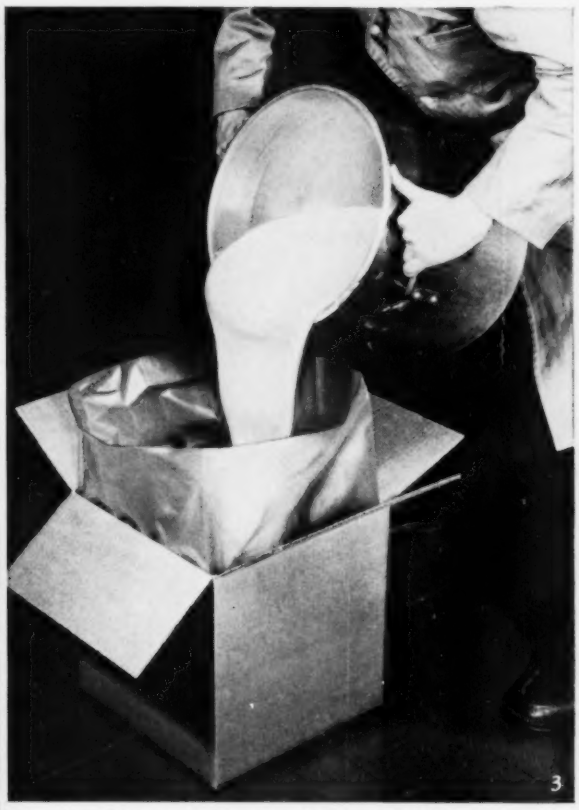
The Dobeckmun Company, Cleveland 1, Ohio • Berkeley 2, California • Bennington, Vermont

Atlanta • Boston • Charlotte • Chicago • Cincinnati • Dallas • Detroit • Indianapolis • Kansas City • Lexington • Los Angeles • Memphis • Milwaukee
New Orleans • New York • Philadelphia • Pittsburgh • Portland • Richmond • Rochester • Salt Lake City • Seattle • St. Louis • St. Paul • Tampa

More developments using

B. F. Goodrich Chemical *raw materials*





1. *Plastisol lining makes an unbeatable drum for acid!*
2. *Geon vinyl film makes ideal protective packaging for many items.*
3. *Geon polyblend liner helps carton act like a drum!*

B. F. Goodrich Chemical Co. does not make these items. We supply the Geon materials only.

FOR SHIRTS, ACIDS, OILS OR LARD!

. . . Geon answers packaging problems, cuts costs

THE pictures here may give you entirely new ideas for solving a packaging problem, or cutting costs, with Geon materials.

The Geon vinyl plastic liner makes it possible to use fiberboard instead of metal containers for packaging lard, oils, pharmaceuticals and other products. Because of Geon, the liner resists oils, greases and many chemicals. Easily sealed, it does not permit the contents to seep or migrate through the liner—does not contaminate the contents or the carton. It is abrasion-resistant, odor-proof and flexible at high or low temperatures.

The drum pictured is lined with a plastisol made with Geon paste resin. The plastisol protects the metal against corrosion by many acids and chemicals. It permits the use of ordimary metal drums, instead of stainless steel or breakable containers. And these plastisol-lined drums are long lasting.

The shirts, packaged in Geon vinyl film, are safe against soiling or handling. The Geon film makes stacking easier and protects the manufacturer's and the retailer's stock; won't tear even with rough handling.

There's a wide variety of Geon materials, to meet practically any packaging need. We'll gladly help you select the one best suited to your requirements. For information and technical advice, please write Dept. GL-10, B. F. Goodrich Chemical Company, Rose Bldg., Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

GEON RESINS • GOOD-RITE PLASTICIZERS . . . the ideal team to make products easier, better and more saleable

GEON polyvinyl materials • HYCAR American rubber • GOOD-RITE chemicals and plasticizers • HARMON colors

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ALL FAMOUS, TOP-SELLING CEREALS USE RIEGEL INNER LINERS SPECIALLY MADE AND WAXED TO PRESERVE CRISPY FRESHNESS

More than 600 Riegel Papers are now proving their value for many of the nation's best-selling brands. It is the greatest variety of packaging papers available from any one source.

Somewhere among this wide selection you may find a better or more economical paper to protect your product. If we don't have just what you want, we can usually "tailor-make" a new paper to your specifications.

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GLASSINES AND GREASEPROOFS

Plain • Waxed • Printed • Lacquer-Coated • Laminated

Introducing the NEW Thermatron Acetate and Vinyl Packaging Machine

Thermatron

HIGH FREQUENCY SEALING AND HEATING EQUIPMENT

ELECTRONIC CONTOUR PACKAGING OF PLASTICS IN A SINGLE OPERATION!

Small items such as golf balls, razor blades, cosmetics, drug items, etc. can now be contour packaged in a single economical operation on the new THERMATRON acetate and vinyl packaging machine which consists of a THERMATRON high frequency sealing generator, sealing press and a turntable.

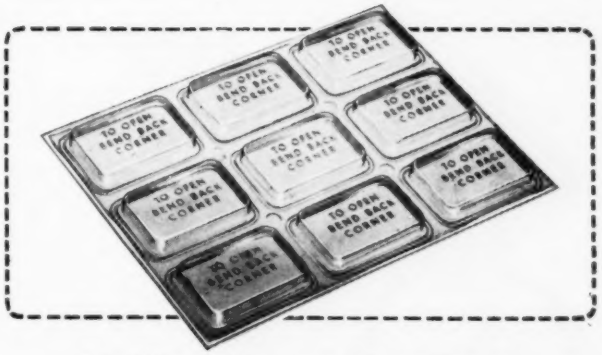
Acetate, rigid vinyl or a combination of rigid and soft vinyl may be used to create a package that is individual, attractive and practical. Eye appeal plus low cost make contour packaging the THERMATRON way a *must*.

The distinctive new "Plasti-Guard" packaging now being used by United States Rubber Company for its True Blue and Three Star U.S. Royal golf balls. Each ball is covered with an electronically sealed plastic covering produced on THERMATRON that gives complete protection to the ball until ready for use.

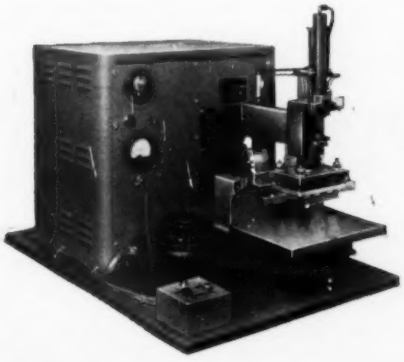
THERMATRON

As many units as the THERMATRON generator can handle electronically are sealed in one operation, and in the case of golf balls that's three at a time. Sealing rate varies between 12 and 20 operations a minute, and ejection of the package may be automatic or manual. The entire machine is shielded and certified to conform to F.C.C. requirements.

For further information and specifications without obligation, write for Bulletin M-2.



Razor blades and drugs, etc. can be attractively displayed in these THERMATRON sealed plastic containers. Single items may be removed without spoiling the individual packages.



Thermatron Division
RADIO RECEPTOR COMPANY, INC.
Since 1922 in Radio and Electronics
SALES OFFICES:
New York 11: 251 West 19th St. • Chicago: 2753 West North Ave.
New York Telephone: WAtkins 4-3633 • Factories in Brooklyn, N.Y.

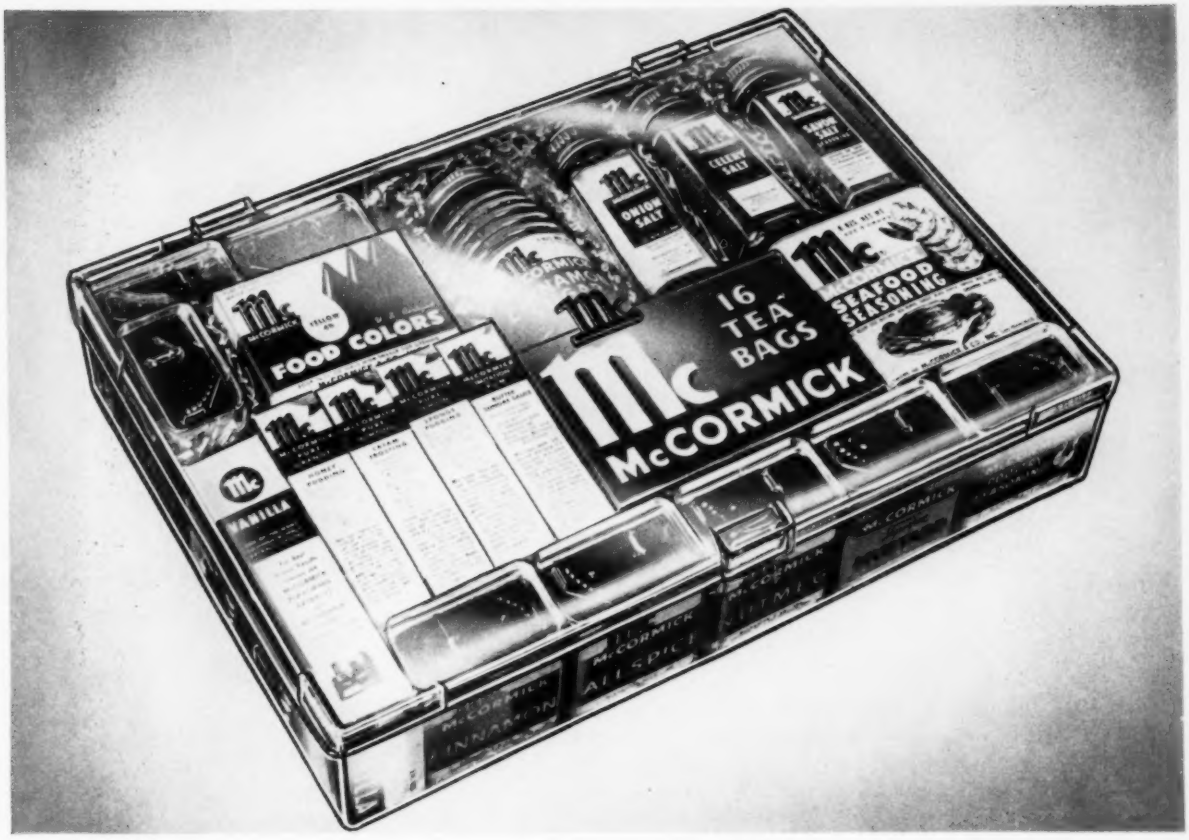
Helping men to look their best

Male wardrobes today are larger and more varied than ever before. Clothing makers have styled their apparel for each of the seasons and each of the activities men pursue. And because seasonal merchandise can be brought most graphically to people's attention through colorful booklets and folders, Oxford Papers have had a share in building greater sales for the clothing industry.

Oxford Papers

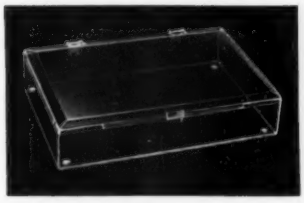
Help Build Sales

OXFORD PAPER COMPANY, *230 Park Ave., New York 17 N. Y.* • OXFORD MIAMI PAPER COMPANY, *35 East Wacker Drive, Chicago 1, Ill.*
Mills at Rumford, Maine, and West Carrollton, Ohio.



Goodwill COMES IN **TRI-STATE** PACKAGES

Mc Cormick & Company, Inc., Baltimore, distributes goodwill encased in Tri-State Rigid Plastic Boxes. Friends, suppliers and customers of the world's largest spice and extract house, receive this big gift box at holiday times and on various special occasions. Packed in the crystal-clear box are 20 Mc Cormick products . . . welcome in every kitchen. Equally as welcome is the large, sturdy Tri-State Rigid Plastic Box which has hundreds of handy uses in every part of every house.



Mc Cormick & Company uses our No. 700 box — 9-3/16" x 13-1/8" x 2" — with tight-fitting brass-hinged lid. Regardless of what you may package there's a Tri-State Rigid Plastic Box to fit your product, build your sales, simplify your packaging operations. Choose from the world's largest assortment of stock sizes and shapes, or we'll mold to your specifications.

The best Rigid Plastic Boxes are Injection Molded by

TRI-STATE PLASTIC MOLDING CO., Inc.

HENDERSON 6, KENTUCKY

NEW YORK: 12 E. 41st St., MUrray Hill 3-6572 **CHICAGO:** 176 W. Adams St., FRanklin 2-7292 **DETROIT:** 18401 E. Warren Ave., TUxedo 5-5500

New "GOOD LUCK" Package Tells a Fresh Sales Story

with the best-known name in foil!

Leading margarine and butter packers have long used the aluminum foil wrap especially developed by Reynolds for quarter-pound prints and as a single intimate wrap on pound prints. It made history in the industry for superior quality protection.

Now here's a sensational further development by Reynolds...the foil-wrapped quarter-pounds in a carton which is then over-wrapped and heat-sealed in Reyseal.* This is the Reynolds-developed foil lamination that has been a tremendous factor in dried fruit sales, that has sent the cookie business booming, that is indispensable for dehydrated products.

This new Good Luck package is the basis for Lever Brothers' nation-wide advertising...proclaiming new freshness and flavor by TV, radio, newspapers, magazines. And this quality story is tied directly to REYNOLDS WRAP...in Good Luck advertising and on the package. Surveys have proved that REYNOLDS WRAP means aluminum foil to women...tells the story of superior food protection *quickest.*

See, below, how *you* can score the same advantage with your product. For more information, write **Reynolds Metals Company,** General Sales Office, Louisville 1, Kentucky.

*T. M. Reg. U. S. Pat. Off.
Patent Pending on Composite Package

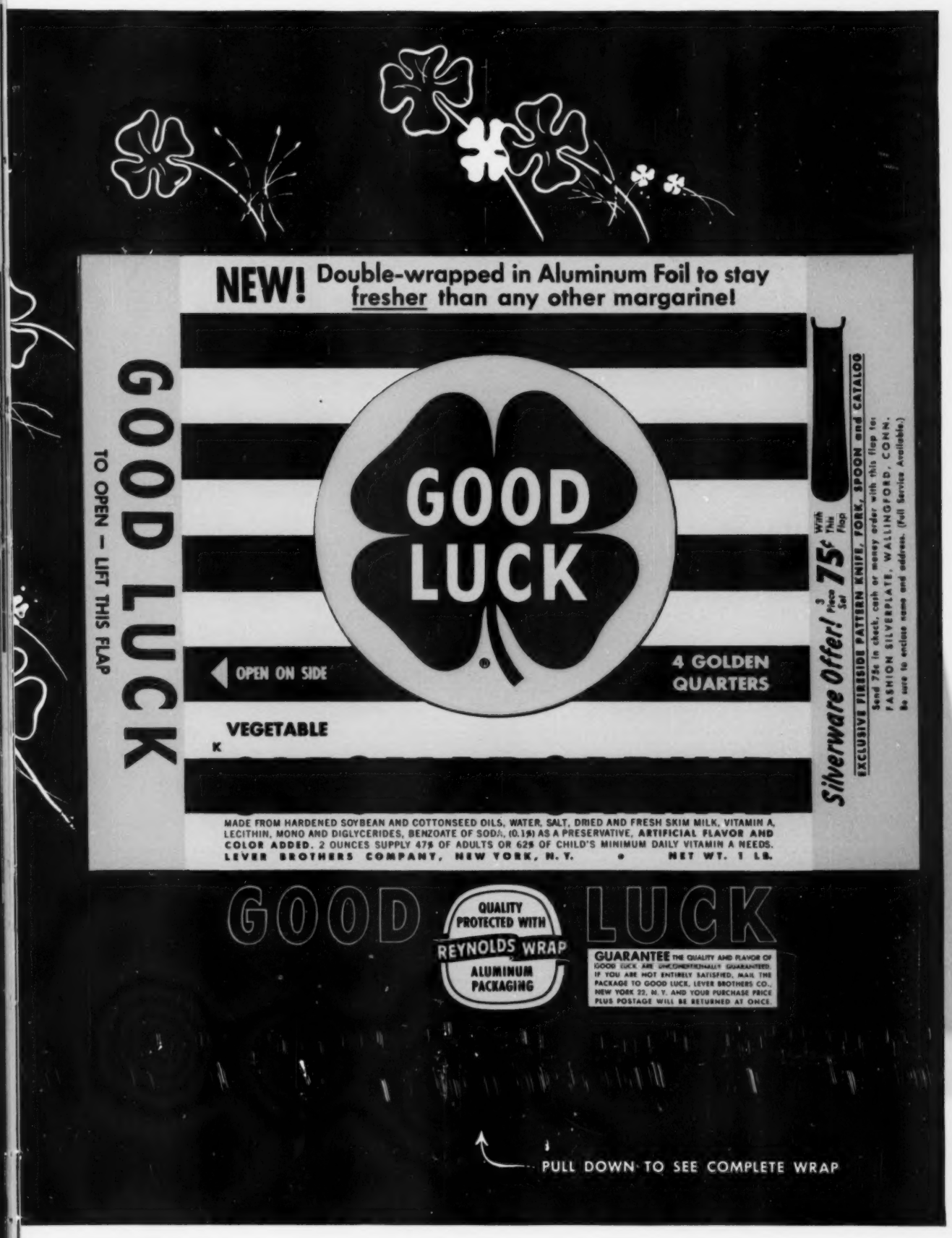
QUALITY PROTECTED WITH REYNOLDS WRAP ALUMINUM PACKAGING

Contact the nearest Reynolds Sales Office for information on how you can put the REYNOLDS WRAP PACKAGING SEAL on your package. Take advantage of the name that instantly identifies aluminum foil—the finest packaging known!

Pioneers in Aluminum Foil Packaging

REYNOLDS ALUMINUM

SEE "MISTER PEEPERS," starring Wally Cox, Sundays, NBC-TV Network.


NEW! Double-wrapped in Aluminum Foil to stay fresher than any other margarine!
GOOD LUCK
TO OPEN — LIFT THIS FLAP
GOOD LUCK
OPEN ON SIDE
4 GOLDEN QUARTERS
VEGETABLE
Silverware Offer! 3 Piece Set 75¢ With This Flap
EXCLUSIVE FIRESIDE PATTERN KNIFE, FORK, SPOON and CATALOG
Send 75¢ in check, cash or money order with this flap to: FASHION SILVERPLATE, WALLINGFORD, CONN.
Be sure to enclose name and address. (Full Service Available.)
MADE FROM HARDENED SOYBEAN AND COTTONSEED OILS, WATER, SALT, DRIED AND FRESH SKIM MILK, VITAMIN A, LECITHIN, MONO AND DIGLYCERIDES, BENZOATE OF SODA (0.1%) AS A PRESERVATIVE, ARTIFICIAL FLAVOR AND COLOR ADDED. 2 OUNCES SUPPLY 47% OF ADULTS OR 62% OF CHILD'S MINIMUM DAILY VITAMIN A NEEDS.
LEVER BROTHERS COMPANY, NEW YORK, N.Y.
NET WT. 1 LB.
GOOD LUCK
QUALITY PROTECTED WITH REYNOLDS WRAP ALUMINUM PACKAGING
GUARANTEE THE QUALITY AND FLAVOR OF GOOD LUCK ARE UNCONDITIONALLY GUARANTEED. IF YOU ARE NOT ENTIRELY SATISFIED, MAIL THE PACKAGE TO GOOD LUCK, LEVER BROTHERS CO., NEW YORK 22, N. Y. AND YOUR PURCHASE PRICE PLUS POSTAGE WILL BE RETURNED AT ONCE.
PULL DOWN TO SEE COMPLETE WRAP

MAKE **WIRZ** YOUR PACKAGING LABORATORY

First aid comes in tubes

SO DOES CUSTOMER ACCEPTANCE

Many leading pharmaceutical houses use economical WIRZ tubes exclusively. You can gain convenience, protection and acceptance for your product in safe, attractive Collapsible Metal Tubes—by WIRZ.

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JOHNSTON FOIL

... FOREMOST FOR PACKAGING BY "AMERICAN"

ALUMINUM ... TIN ... LEAD ... COMPOSITION TIN AND LEAD

OUT FRONT *in the* BAKING PAN PARADE

Modern methods in the Bakery Industry — pans made of JOHNSTON FOIL — go all the way from oven to the home. They save time, cut labor costs, increase sales — the prime function of modern foil packaging.

*PANS BY
THE AMERICAN PAN DIVISION
CINCINNATI, OHIO

What are **YOUR** *needs?*

SINCE 1889 JOHNSTON FOIL MANUFACTURING CO.

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633 SOUTH LA BREA AVE. LOS ANGELES, CALIFORNIA

Selling Aid FOR A Beauty Aid

the Ritchie display dramatizes the value

HOW A RITCHIE SALESMAN'S CREATIVE SELLING GAVE LADY ESTHER LTD. A FINE PACKAGE

The merchandising department at Lady Esther wanted a special display carton for an entirely new beauty aid, Estrogenic Hormone Cream. A quality display for a quality product. A Ritchie salesman was called in.

The Ritchie salesman interpreted the requirements to Ritchie designers—a creative process, because it involved the translation of those characteristics that make a package effective into terms of materials, construction, design, and color.

Out of this creative process came this packer-display serving a dual merchandising purpose.

aids in the selling

P.S. *The creative interpretation of the customer's needs is the most important part of a Ritchie salesman's job.*

protects the product

Are you in need of folding cartons, transparent packages, paper spools, set-up boxes, fibre cans? Put this kind of Ritchie "creative selling" to work for you without cost or obligation. Write today.

W. C. Ritchie AND COMPANY

8854 BALTIMORE AVENUE, CHICAGO 17, ILLINOIS

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Confidence in Quality is the Keynote to Ethical Drug Sales

Visible Package Quality

Promises Invisible Product Quality

Ridgelo
CLAY COATED
REG. U.S. PAT. OFF.
BOXBOARDS

Custom Made

IS OUR 'POLY' SALESMAN WORKING FOR YOU?

Reggie Ridgelo's POLYEON combines the outstanding properties of Polyethylene with selected packaging materials, to help you produce superior packaging for your customers.

Write today for your samples of POLYEON kraft, foil, cellophane, boxboard, tag and other sales-building combinations for protective packaging.

Carton Material That's Made to Order for Every Order!

Whiter • Brighter • Smoother • Glossier

The time has come when purchasers of ethical drug products put their prime confidence not only in the pharmacist . . . but in the brand name. This confidence, built up carefully and at great expense through fine ingredients, absolute uniformity, and national advertising, is further assured by superior packaging. To get that sort of packaging for their products, ethical drug manufacturers turn to Ridgelo. From it, as from no other source, they can be assured of Clay-coated boxboard that's custom-made, that's precision-made, for their express requirements.

MADE AT RIDGEFIELD, N. J. BY LOWE PAPER COMPANY

Representatives

H. B Royce, Detroit
Philip Rudolph & Son, Inc., Philadelphia
A. E. Kellogg, St. Louis
Norman A. Buist, Los Angeles

This is No Bull

But it Serves the SAME Purpose

A cow in a pasture in Ohio. A bull in a barn in Iowa. How are you going to bring them together for breeding? Science had the answer in artificial insemination . . . and Clearsite Plastic Containers proved the ideal package to send the bull to the cow by mail! There was no chemical reaction between the plastic and the semen while the latter was in storage and shipping costs was considerable. Just one of hundreds of uses for these sanitary, feather-light, moisture-tight, shatter-proof containers. Available in many sizes and adaptable to various kinds of closures. (Special sizes also made to your specifications.) Any trade-mark or label can be multi-color printed right on the container. Write for literature and samples.

CELLUPLASTIC CORPORATION

General Offices: 50 Avenue L., Newark 5, N. J.

TRANS

Clearsite*

PLASTIC CONTAINERS *that Sell*

*REGISTERED TRADE MARK

STOP SHOPPERS with NIBROC® WHITE

the Best in packaging papers

In today's serve-yourself market it takes the best in bag and sack papers to stop shoppers. Nibroc White is that paper because Nibroc gives your package—

Superior Visibility! It brings out the best in printing inks because it has outstanding printing qualities that provide bright, sharp reproduction at high speed with clean, fast drying.

Superior Strength! Because it is exceptionally tough and flexible, Nibroc White gives far greater protection . . . guarantees safe and sound delivery of the product.

More hands will reach for your package in self-service stores. Let our Technical Service staff work with you to develop a Nibroc paper engineered to meet your specific needs. Write Dept. RD-10, Boston.

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General Sales Offices: 150 Causeway Street, Boston 14, Mass.
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NIBROC TOILET TISSUE • BERMICO SEWER PIPE, CONDUIT & CORES • ONCO INSOLES • CHEMICALS

only STONE with MULTI-TONE

MULTI-TONE now makes possible the reproduction of photographic illustration with full true-to-life detail and color. This added new dimension gives you the opportunity to fully exploit the advertising and merchandising possibilities of your product on your shipping container.

Write for our stimulating brochure suggesting **MULTI-TONE** uses. Also available at no obligation for your showing, a 3 dimensional full color movie, **"Packaging in the 3rd Dimension by Stone."**

3D IMENSION TO PACKAGING
TO SELL AS YOU SHIP!

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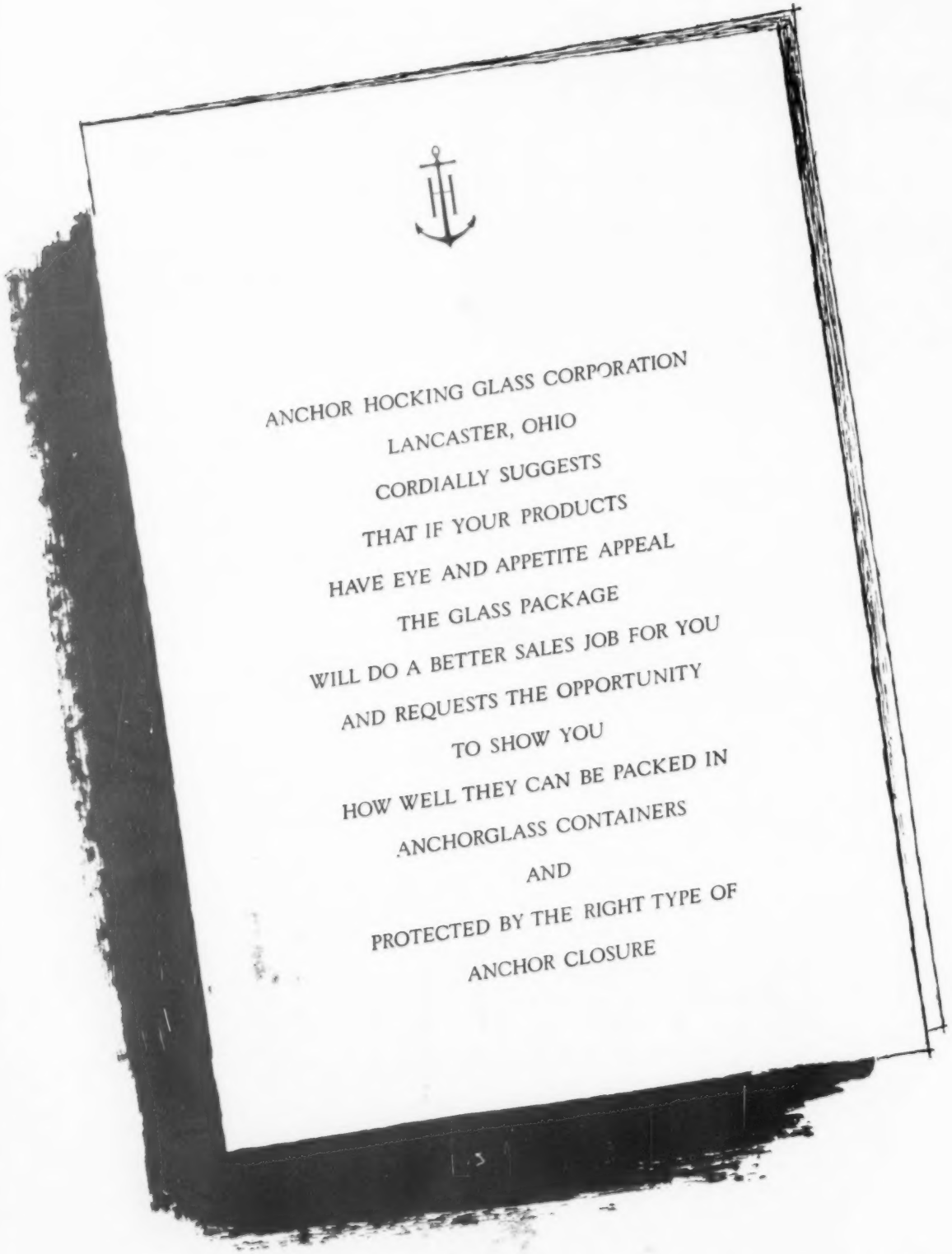
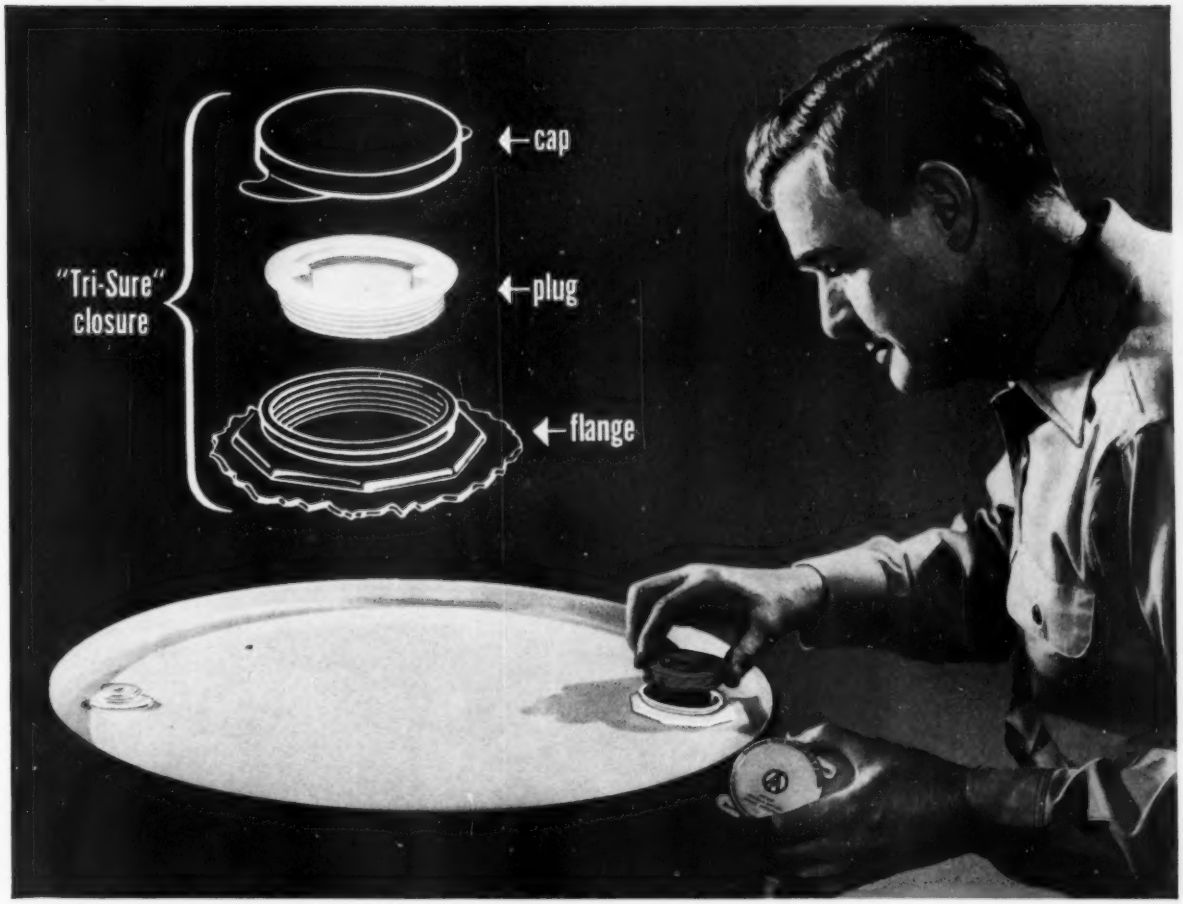
OTHER PLANTS and MILLS: Chicago, Ill.; Philadelphia, Pa.; Franklin, Ohio; Coshocton, Ohio; Pittsburgh, Pa.; Mansfield, Ohio; Mobile, Ala.

SALES OFFICES:
New York, Philadelphia, Pittsburgh, Allentown, Pa.; Lancaster, Pa.; Reading, Pa.; Cambridge, Md; Mansfield, Ohio; Cleveland, Toledo, Columbus, Lima, Ohio; Chicago, South Bend, Kenosha, Peoria, Kalamazoo, Grand Rapids.

IN THE MID-WEST CALL
Chicago: Virginia 7-3300 • **Mansfield, Ohio:** Mansfield 4-1116
Pittsburgh: SPaulding 1-4900 • **Cleveland:** Superior 1-5135


ANCHOR HOCKING GLASS CORPORATION
LANCASTER, OHIO
CORDIALLY SUGGESTS
THAT IF YOUR PRODUCTS
HAVE EYE AND APPETITE APPEAL
THE GLASS PACKAGE
WILL DO A BETTER SALES JOB FOR YOU
AND REQUESTS THE OPPORTUNITY
TO SHOW YOU
HOW WELL THEY CAN BE PACKED IN
ANCHORGLASS CONTAINERS
AND
PROTECTED BY THE RIGHT TYPE OF
ANCHOR CLOSURE



Drum plugs molded of DU PONT "ALATHON" help eliminate contamination of chemicals

It's another packaging improvement made possible by the outstanding properties of "Alathon"

Corrosive materials packaged in metal drums become contaminated unless walls, flange threads and plugs are coated with a protective material. When the flange and plug are of metal, the flange-thread coating tends to wear away due to repeated removal and insertion of the plug. Exposure to the metal contaminates the material packaged. Frequent recoating of the flange threads is necessary to maintain the protective seal.

One closure manufacturer wanted to make the plug itself out of a material that would be harmless to the thread coating. But it had to resist chemical attack and give a positive seal as well.

He chose DuPont "Alathon"* polyethylene resin because of its unique combination of properties. "Alathon" is odorless, tasteless, non-toxic (contains no plasticizer). At ordinary temperatures, it has outstanding resistance to most chemicals and solvents in common use. "Alathon" is tough, flexible, and virtually unbreakable. Its resilience assures a tight, leakproof fit without damage to the flange-thread coating. Its low specific gravity and ease of molding permit mass production at low cost.

Du Pont "Alathon" is widely used in the packaging industry for closures, containers and as a coating for paper. Perhaps it can help you improve or develop packaging applications. For full information, write:

E. I. du Pont de Nemours & Co. (Inc.)
Polychemicals Department
Room 2410, Du Pont Building
Wilmington 98, Delaware

*REG. U.S. PAT. OFF.

"Tri-Sure"† flanges, plugs and seals made by American Flange & Mfg. Co., Inc., New York, N. Y.

† *Trademark—American Flange & Mfg. Co., Inc.*

DU PONT
REG. U.S. PAT. OFF.

Better Things for Better Living
...through Chemistry

Polychemicals
DEPARTMENT
PLASTICS • CHEMICALS

you'll find your $100 STETSON fittingly packed in a MILLER BOX

Next time you're shopping for a $100 hat, you'll naturally want to look at a Stetson. And . . . appropriately enough . . . you'll find it in a box made by Miller.

Winner of an important award in the Third Annual Set-Up Paper Box Competition, this creation is a stand-out in the hat box field. Rigid construction, leather handles, and a snap-button closure provide excellent travel qualities. Gold acetate laminated covering adds the crowning touch to the exterior!

But don't think that fine Miller Boxes come only with $100 chapeaux. Stetson offers an equally impressive container for its $50 line. Other Miller Boxes provide protective and economical packaging for merchandise ranging from confectionery to surgical instruments and hardware. We have the skilled handwork and the machine capacity to meet your demands. Call or write; we'll send a representative to help solve your packaging problems.

DESIGNERS AND MANUFACTURERS OF SET-UP PAPER BOXES

Telephone MArket 7-2600

SYLVANIA CELLOPHANE

helps deliver Peter Paul candies

the way customers like them!

not too hard...

not too chewy...

but just right!

It is important that chewy items such as caramels maintain their original moisture content. Otherwise quality, texture and appearance can be seriously affected.

That's why Peter Paul in packaging its famous Walnettos, Coconettos and Choclettos uses Sylvania Cellophane. It heat seals quickly and completely—provides excellent display of contents—and because of its economy it helps hold packaging costs in line.

Specify Sylvania Cellophane—the wrap that keeps candy fresh—keeps sales growing. Sylvania Division, American Viscose Corporation, 1617 Pennsylvania Blvd., Philadelphia 3, Pa.

SYLVANIA DIVISION, AMERICAN VISCOSE CORPORATION

SYLVANIA CELLOPHANE

1,222 different size pulleys packaged on one CECO ADJUSTABLE CARTONER

The world's largest manufacturers of cast iron and pressed steel FHP V-belt pulleys, Maurey Manufacturing Corporation, Chicago, Ill., package 1,222 different size pulleys on a single Model 3901 CECO Adjustable Cartoner.

Changeover time for each different size carton averages less than 30 seconds. Labor savings range from 30% to 70% over previous packaging methods.

CECO OFFERS 3 TYPES of ADJUSTABLE CARTONERS INCLUDING SEMI-AUTOMATIC and FULLY-AUTOMATIC MACHINES each in the

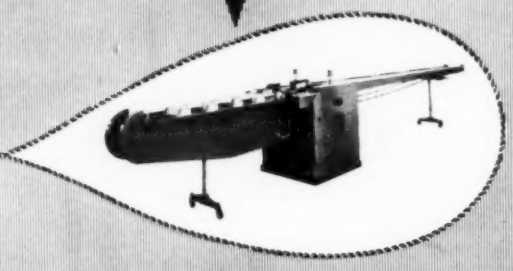
LOW PRICE RANGE

Products packaged economically on CECO Model 3901 include:

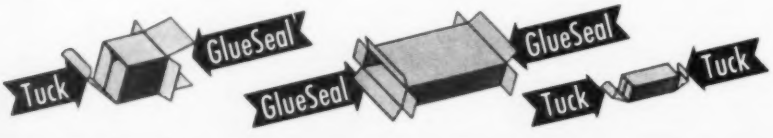
- Pharmaceuticals
- Electric Appliances
- Macaroni Products
- Hardware
- Automotive Parts
- Dry Goods
- Building Supplies
- Dairy Products
- Chemicals
- Cosmetics
- Cigars

CECO Model 3901

The most versatile and lowest cost adjustable carton glue sealer in the packaging business. Hundreds in successful operation for large and small concerns all over the world. Carton set-up and product insertion are manual. Cartons are closed automatically.



All CECO Cartoners are adjustable quickly without special tools by unskilled help for a wide range of carton sizes. Economical for long or short runs. All models can glue-seal both ends, or seal one end and tuck the other, or tuck both ends. CECO Cartoners produce clean, square, stronger cartons at less cost and with less floor space. A CECO Cartoner generally pays back its low cost in less than a year. Let us prove it. Send for details.



Quick Delivery

Prefabricated standard components and modern assembly lines permit delivery of some standard models within two weeks.

CONTAINER EQUIPMENT CORPORATION

MEMBER, PACKAGING MACHINERY MANUFACTURERS INSTITUTE

78-88 LOCUST AVENUE, BLOOMFIELD 2, N. J.

PHILADELPHIA • BOSTON • CHICAGO • DALLAS • JACKSON
NEW YORK • SAN FRANCISCO • SAVANNAH • TORONTO

FLIP-CLOSE displays your merchandise beautifully on shelf or counter, yet protects it from soiling and mussing. Your brand is printed in Quanta-coded colors. Customers can "feel inspect" contents without damaging bag. Markdowns due to shopworn goods practically eliminated. FLIP-CLOSE builds *profits* as well as sales.

Packaging in FLIP-CLOSE is fast, easy, economical. Insert the merchandise —flip the cap into place. Takes minimum working space and NO machinery or special installation. Workers like FLIP-CLOSE. So does your cost accounting manager.

Experience Proves

Bemis FLIP-CLOSE Bag

"Finest Sales-Building Package"

Garments in New Transparent Bag Sell Faster . . . Stores Have Trouble Keeping Adequate Stock

Bemis FLIP-CLOSE, the new polyethylene (transparent plastic) package with the built-in closure (patent applied for), is ready to join your sales force.

FLIP-CLOSE is a potent sales-builder for a wide range of merchandise—clothing, domestics, paper products, produce, etc. The enthusiastic report from Mr. F. C. Johnson, vice-president in charge of sales of Strutwear, Inc., widely known manufacturer of nationally distributed women's wear, is typical.

FLIP-CLOSE may be the answer to many of the problems facing you and your customers. Get the complete story. Send the coupon today for detailed information and sample FLIP-CLOSE Bag.

STRUTWEAR INC.

Bemis Bro. Bag Company
600 4th Street, South
Minneapolis 15, Minn

Gentlemen

Six months' experience in packaging Strutwear gowns, pajamas and bedjackets in Bemis Flip-Close polyethylene bags proves it is the finest sales-making package we have ever seen. Everybody is enthusiastic about Flip-Close, from the girls packing the garments through the shipping clerks, our salesmen, our customers and the ultimate consumers.

The real proof, of course, is that retail stores are having exceptional results selling our garments in the new package and they are having trouble keeping the proper stock on display. Stores say the bags make wonderful shelf and counter displays and the transparent plastic shows the garments without soiling or mussing. This, of course, practically eliminates markdowns due to shopworn merchandise. The easy opening and reclosing is a great feature, too.

Consumers feel they are getting a bonus value because the bag has so many re-uses -- as a garment bag, diaper bag, shoe bag, refrigerator bag, etc.

Congratulations to Bemis on development of Flip-Close. We are congratulating ourselves on being among the first to use it.

Sincerely,

F. C JOHNSON
Vice President
In Charge of Sales

Mr. F. C. Johnson

Consumers want FLIP-CLOSE bags for their wonderful re-use value. A housewife can't get enough of them. She uses them in the refrigerator, for picnic or school lunches, for garments and shoes when traveling, for diapers, for bathing suits—scores of uses. Bemis polyethylene contains no plasticizers and does not deteriorate with age.

BEMIS BRO. BAG CO.
408 Pine Street, Box 49, St. Louis 2, Mo.

Send promptly sample FLIP-CLOSE Bag and information about its use for _____ (PRODUCT)

Your Name _____

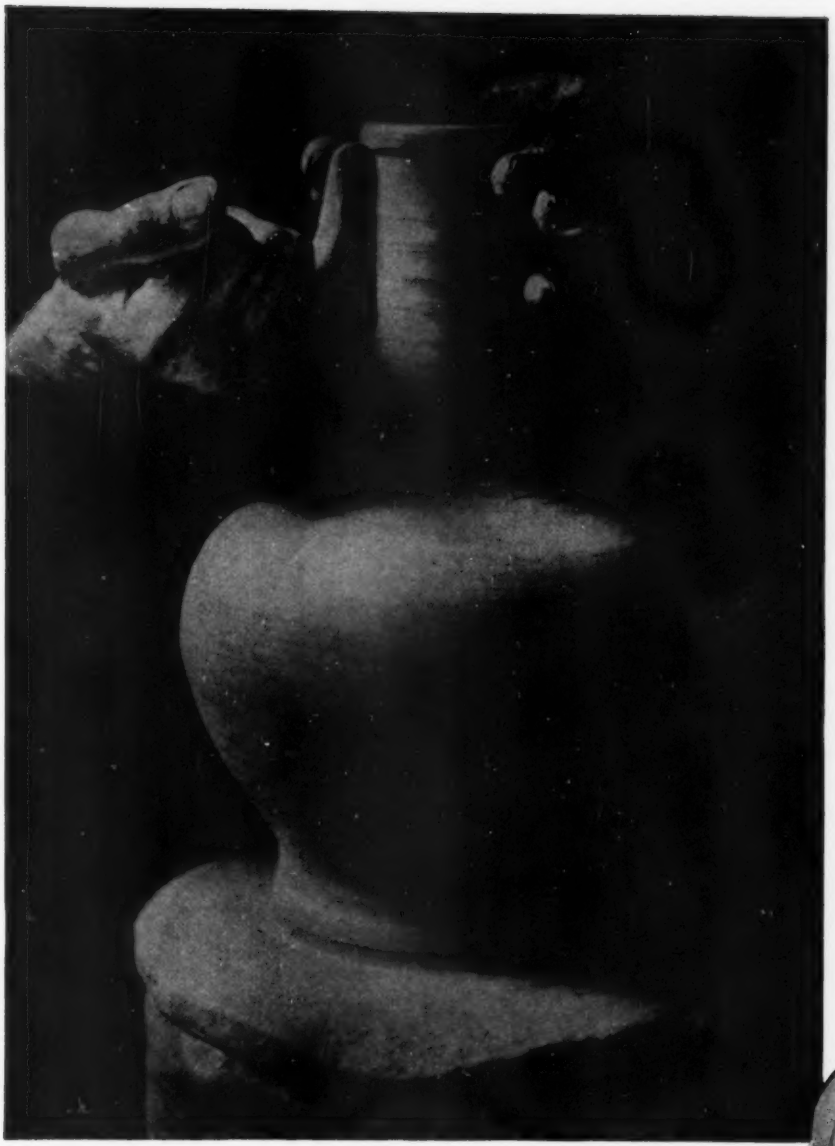
Firm _____

Address _____

City, Zone, State _____

BEMIS BRO. BAG CO.

General Offices—St. Louis 2, Mo. • Sales Offices in Principal Cities



The ultimate of quality, care, craftsmanship ...go into *Rowell Boxes*

The creative art of the master pottery-maker finds its counterpart in the exacting skill Rowell devotes to making fine set-up boxes ... a skill known by packagers everywhere

E. N. Rowell Co. Inc.
Mfrs. Fine Paper Boxes
Batavia,
N. Y.

investigate CLEVELAND CONTAINERS

METAL END FIBRE CANS FOR UNIT PACK AND INTERMEDIATE PACKING
. . . For both MILITARY and CIVILIAN USES.

SAVE TIME in packaging . . . EXPEDITE repairs by having spare parts available when needed.

MIL-C-12147(A) **MIL-C-5405** **MIL-C-12804**

Spare parts and supplies packaged in containers made to MIL-C-12147(A) meet all the requirements of Method IA and Method II Packaging. The reduction in cost from your present method of packaging may be substantial.

Fibre container packs are approved and in current use by most of the technical branches of the Government. The uses in civilian applications are becoming more numerous every day.

These cans provide a continuous barrier and permit the reduction or elimination of preservatives and internal wraps. We supply a complete service, from the design of the container to furnishing closing equipment, which is available on a rental basis.

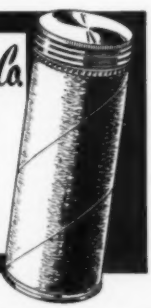
Why pay more? For the best . . .
call CLEVELAND!

We will have an exhibit at the Industrial Packaging and Materials Handling Exposition in Boston, October 20-22. Our engineers will be glad to discuss packaging problems with those who attend. Otherwise, please call or write—we will provide the technical help.

The CLEVELAND CONTAINER Co.
6201 BARBERTON AVE. CLEVELAND 2, OHIO
• All-Fibre Cans • Combination Metal and Paper Cans
• Spirally Wound Tubes and Cores for all Purposes

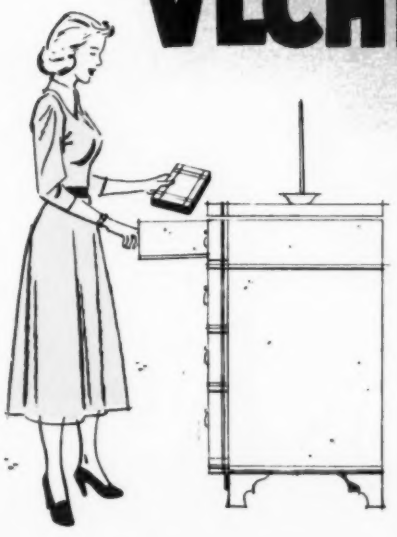
PLANTS AND SALES OFFICES: Cleveland, Chicago, Detroit, Memphis, Plymouth, Wisc., Ogdensburg, N. Y., Jamesburg, N. J. • ABRASIVE DIVISION at Cleveland. SALES OFFICES: Grand Central Terminal Bldg., New York City; Washington Gas Light Bldg., Washington, D.C.; West Hartford, Conn.; Rochester, N.Y.

Cleveland Container Canada, Ltd.: PLANTS AND SALES OFFICES: Toronto and Prescott, Ont. • SALES OFFICE: Montreal.



This is the type of box which Kittinger Co., Inc., Buffalo, New York, exclusive makers of Williamsburg Restoration Furniture Reproductions, supply with servers and sideboards. It is a standard Vlchek Plastic Box lined with green felt.

VLCHEK box adds extra value!



● As a thoughtful addition to their furniture, Kittinger Company, Inc., Buffalo, New York, put a beautiful Vlchek Plastic Box in the shallow drawer of sideboards and servers, for silverware storage.

This makes a big hit with their customers and their customers' customers. It promotes good will and sales all around.

The eight standard sizes of Vlchek Plastic Boxes with 548 different compartment arrangements meet most needs. These boxes increase sales, reduce packaging costs, protect and add extra value for purchasers of cutlery, cosmetics, drugs, food, small parts, hardware, and many other products.

Possibly you, too, can use Vlchek Plastic Boxes to advantage. Our experienced designers will be glad to discuss the subject with you.

PLASTICS DIVISION

THE VLCHEK TOOL COMPANY

3001 East 87th Street
CLEVELAND 4, OHIO

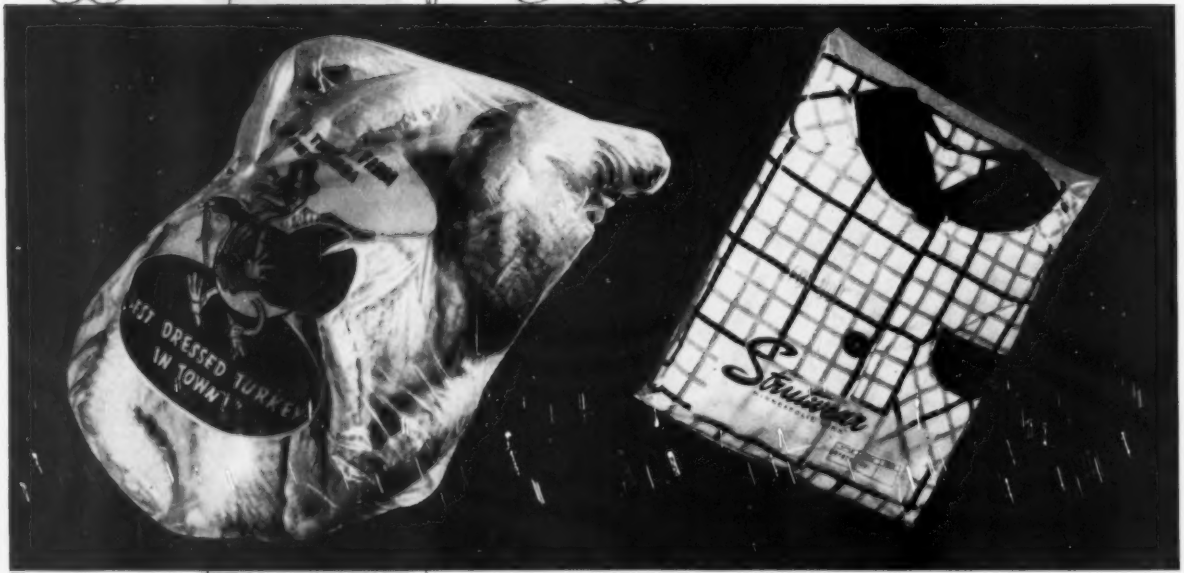
*AMARANTHINE?

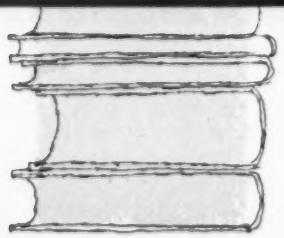
*PERVIRID?

*EVITERNAL?

*INDESINENT?

VIS





VisQueen® film... a product of

THE VISKING CORPORATION

World's largest producers of polyethylene sheeting and tubing

Plastics Division, Terre Haute, Indiana

In Canada: Visking Limited, Lindsay, Ontario

no matter how you describe it

QUEEN

is the *everlasting* film

You don't really need a lot of dollar-and-a-half words to describe **VISQUEEN** film. In a simple six-for-a-penny phrase, **VISQUEEN** is so *durable*, acids that eat away metal don't bother it.

That's just one of the many qualities that make **VISQUEEN** the superior packaging film.

VISQUEEN is *tough*—won't split, crack, run, or shatter. It's hard to puncture, but even if snagged, damage won't spread.

VISQUEEN is *thrifty*—the gauge is so well controlled that you get exceptional uniformity. The end result for you is *more bags per pound.*

VISQUEEN is *versatile*—it adapts to many different types of packaging, seals readily with heat or can be tied, taped, sewn or stapled. **VISQUEEN** bags *open easily* to keep packaging lines at top speed.

Finally, strong **VISQUEEN "C"** is *the* printable polyethylene. It takes print brilliantly to promote your brand name.

See a **VISQUEEN** converter. He'll be glad to help you with your packaging problem, and he's backed by VISKING's superior know-how. Just use the coupon to get his aid.

**They all mean Eternal.*

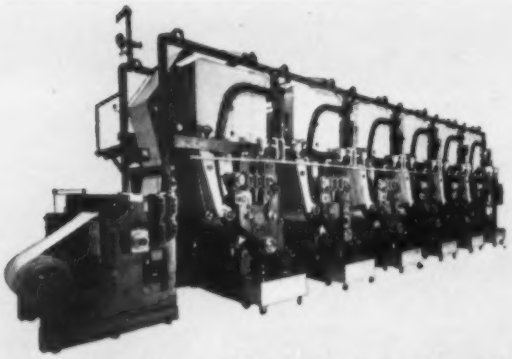
Important! VISQUEEN film is all polyethylene, but not all polyethylene is VISQUEEN. VISQUEEN film is produced by process of U. S. Patents No. 2461975 and 2632206. Only VISQUEEN has the benefit of research and technical experience of The Visking Corporation, pioneers in the development of pure polyethylene film.

THE VISKING CORPORATION, BOX H10-1410, Plastics Division, Terre Haute, Indiana

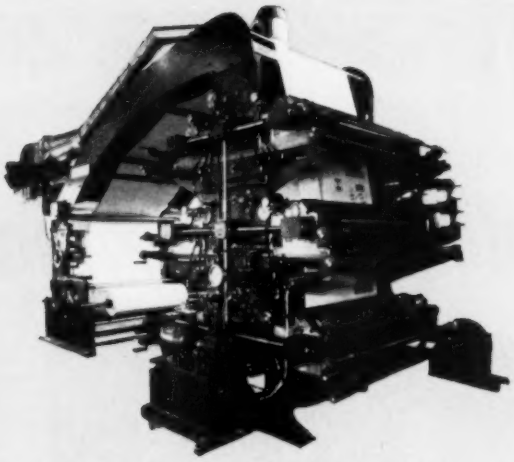
Please send me names of VISQUEEN converters serving my area.

Name_____ Company_____

Address_____ City_____ Zone____ State_____



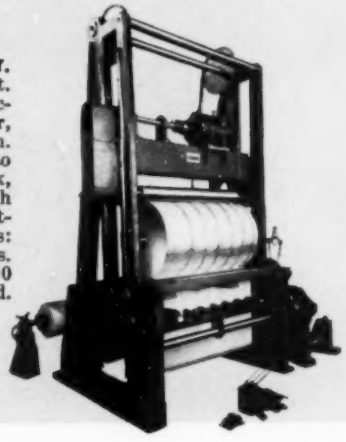
New Gravure Press. Traditional Kidder ruggedness and accuracy, featuring operator-approved design and performance, plus many new advancements. For example: sequencing hydraulic impression mechanisms with adjustable stroke; air loaded doctor blade mechanism with indicator; especially easy cylinder removal; and an exceptionally efficient dryer. Available in two general models: Standard, for 20″, 24″ and 30″ printing widths; and Heavy Duty, for 36″, 44″ and 54″ printing widths.



Master Anilinor. (Flexographic.) Heavy, precision-built with metered ink fountains, assuring constant ink flow at all speeds. Unique drive keeps fountain rolls running when press stops. Hydraulic-operated plate cylinder release. Improved drying system partially dries each color as printed, then completely dries, and cools the printed web after all colors have been applied. Hydraulic constant tension rewind assures perfect rolls. Easy-running antifriction bearings for minimum power use and long life of parts. In 4- or 6-color frames, 36″, 42″, 52″ and 65″ printing widths. Surface wind or center wind.

Model C. D. Celloprinter (30″). (Flexographic.) Semi-automatic web-splicing units and special drying system increase production at least 20%. Outstanding for quality printing of Cellophane, foil and other films.

New Model G. T. Slitter. Shear cut. Gearless construction provides quieter, lower cost operation. Rugged enough to slit 200 lb. tag stock, yet accurate enough to handle the lightest tissue. Widths: 42″ to 94″ trims. Speeds: 1500-2000 f.p.m. Surface wind.



KIDDER EQUIPMENT

For better, lower cost printing and slitting

Bow Type Rotary (hard plate, oil ink). A new design on an old principle. These presses print 90% of the country's waxed food wraps. Available in 5-, 6-, 7- and 8-colors. Widths: 65″, 72″, 84″.

Standard Anilinor. (Flexographic.) 4- and 6-color frames, optional all-electric tensioning device. Printing widths: 30″, 42″, 52″.

Super-Speed Junior and Senior Model Slitters. Shear cut. Speeds to 3000 f.p.m. Stock range: 10 lb. tissue up. Widths: 50″ to 125″. Surface wind.

Junior and Master Mill Winders. Shear cut. Speeds to 4000 f.p.m. Stock range: 10 lb. tissue up. Widths: 50″ to 125″. Surface wind.

C-W Model Slitter. Shear cut. Center wind. Speeds to 2000 f.p.m. Widths: 30″, 54″, 60″. Quick cutter width changes; handles wide range of stock.

Merchant Model Slitter. Shear cut. Speeds to 1200 f.p.m. Capacity: 30″, 42″, and 54″ widths. Minimum cut: ⅜″. Surface wind.

Kidder

PRESS CO., INC.

DOVER, NEW HAMPSHIRE

★

NEW YORK SALES OFFICE

Empire State Building • New York 1, New York

West Coast Representative, Machinery Service Company, 5270 E. Wash. Blvd., Los Angeles 22, Calif.

Their Secret of Smart Packaging Is

BAKELITE TRADE-MARK Polyethylene

The muscle-builder for the waxes coating these wrappers is BAKELITE Polyethylene Resin, mixed in before the wax is applied to the paper.

The result is a package with more sales appeal . . . fresher . . . more durable. Paper strength is increased, gloss is greater, wax rub-off is reduced, heat-sealed bonds are stronger. Colors and printing stay bright and clear—the inert, colorless BAKELITE Polyethylene adds gloss, improves texture. Foods are safe—BAKELITE Polyethylene is essentially odorless, tasteless, resistant to cracking at low temperatures.

Used in any of its various forms, BAKELITE Polyethylene brings these extra features to packages. It can be extruded or laminated to paper or foil to fill pinholes, add toughness, give a strong, quick heat-seal. It can be molded into flexible colored bottles, carboys, closures, and dispensing devices. As film, fabricated into bags, it keeps contents fresh by permitting the passage of gases and preventing the passage of moisture.

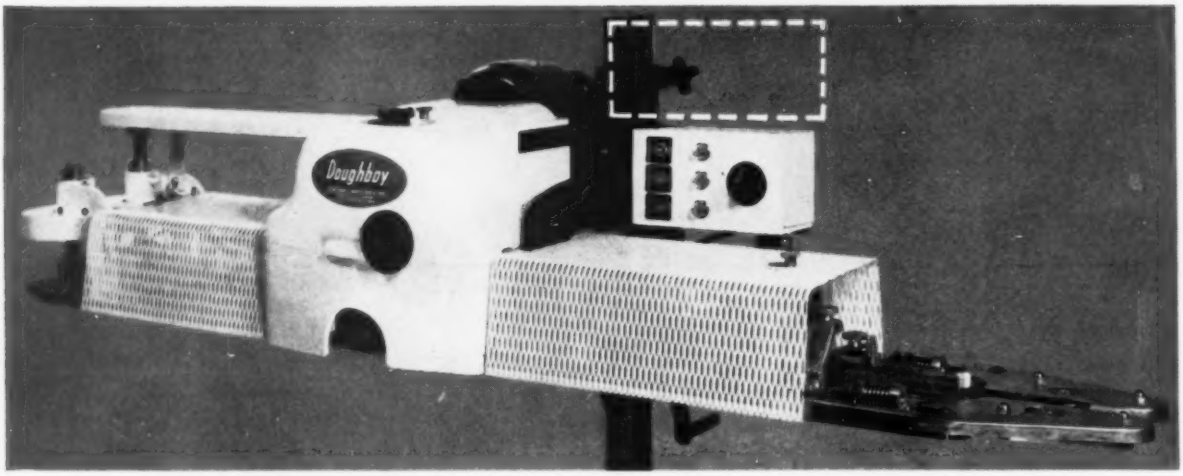
Such a variety of properties and applications are at your service when you look at BAKELITE Polyethylene as a packaging material. To learn more about how it can be used, write Dept. RV-55.

Wrappers and Labels Courtesy of
Pollock Paper Corp.
Dallas, Texas

BAKELITE TRADE-MARK
Polyethylene

BAKELITE COMPANY, *A Division of Union Carbide and Carbon Corporation* UCC 30 East 42nd Street, New York 17, N.Y.

DOUGHBOY LEADS AGAIN!

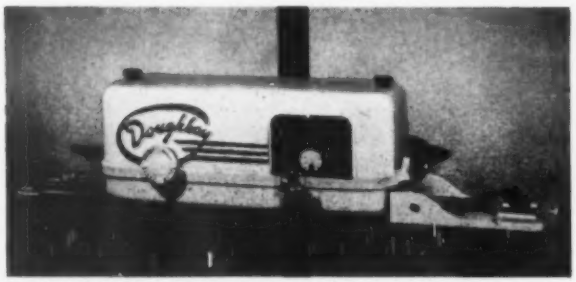


NEW! Dwell-time, Heat and Pressure Indicator on "AT" Rotary Heat Sealer

Now, you can check pressure, temperature and dwell-time of your heat sealing operations at a glance! Doughboy's new dial panel gives you positive control of these three factors with clear, instant readings. Originally designed to meet exacting MILITARY packaging inspection standards, the new dial unit speeds job supervision, boosts packaging efficiency.

Doughboy's new "AT" Rotary Heat Sealer offers quantity output on a wide range of materials—from heavy laminates to such lighter materials as cellophane, glassine and wax type bags. Maintains super speeds up to 900 inches per minute during continuous operation. Available with foolproof code dater, hole punching device, pre-heaters and a bag folding unit.

Got a heat sealing problem? Let a Doughboy machine solve it!



SEAL A VARIETY OF MATERIALS? Doughboy's Continuous Band Sealer handles a complete range of plastic films, is widely used to fabricate case, drum liners and other large-dimension bags. Recommended for heat sealing polyethelene bags, as used by produce packers and confectioners

WORK WITH BULKY MATERIALS? Then you want the new Doughboy Power Hand Sealer, Model PHS-A. The ideal unit for closing "scrim-back" and paper laminates. Light weight (only 6 lbs. 12 oz.) permits efficient manual operation. Use of rotary sealing principle eliminates "skipping" problems.

VISIT DOUGHBOY BOOTHS AT:

Produce Pre-Packing Exposition, St. Louis—Oct. 5, 6, 7

Materials Handling and Industrial Packaging Exposition Boston—Oct. 20, 21, 22

Canadian Packaging Exposition, Toronto—Nov. 3, 4, 5

Write for full details, literature and prices to

Doughboy

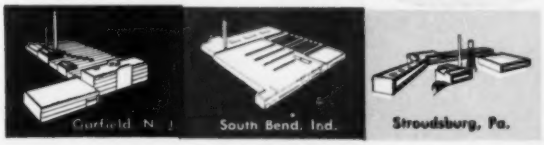
DOUGHBOY INDUSTRIES, INC.
Mechanical Division, New Richmond, Wisconsin

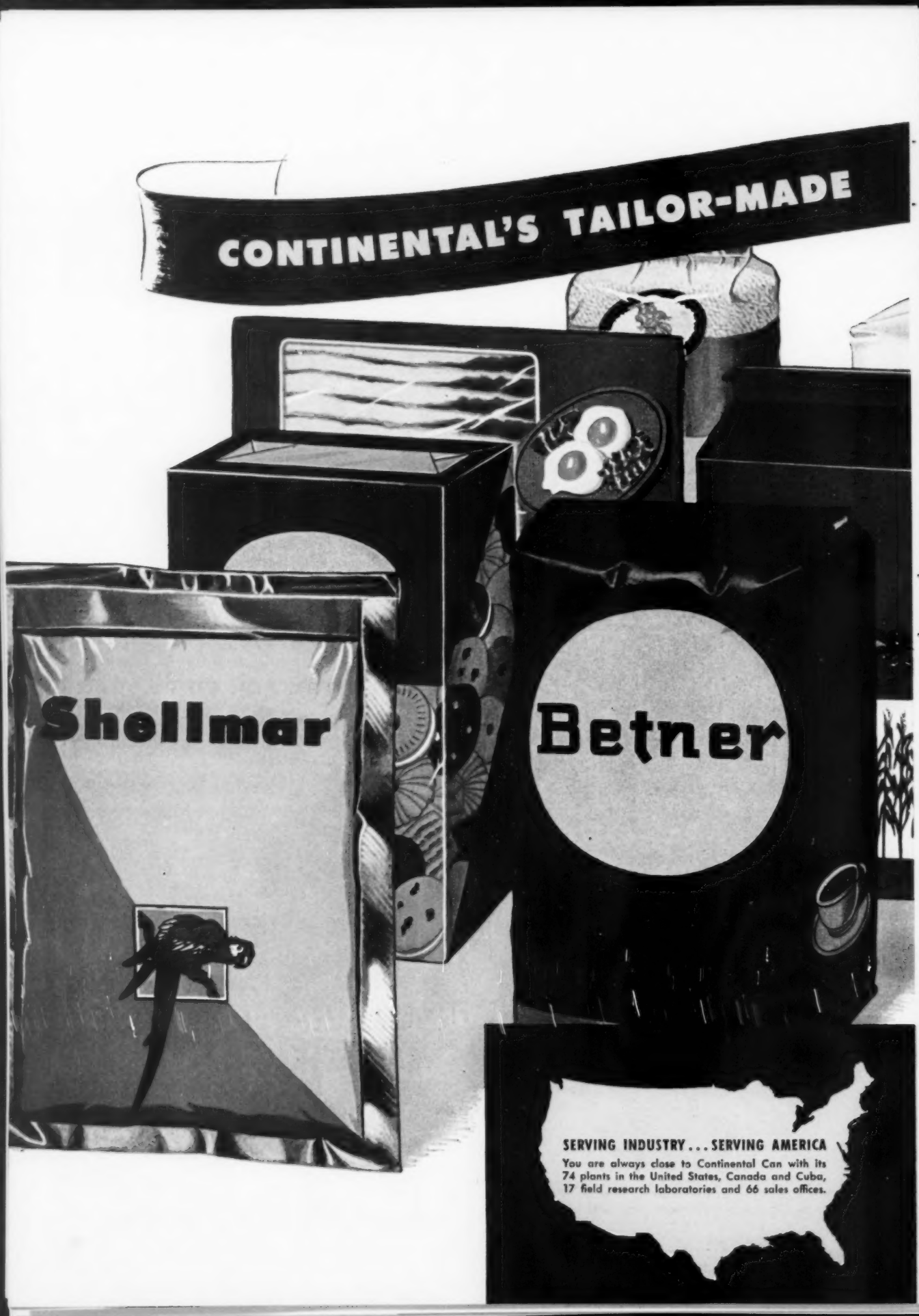
PRODUCING FINE FOLDING CARTONS FOR LEADERS IN INDUSTRY FOR FIFTY YEARS

EMPIRE BOX CORPORATION

FINE FOLDING CARTONS SINCE 1903

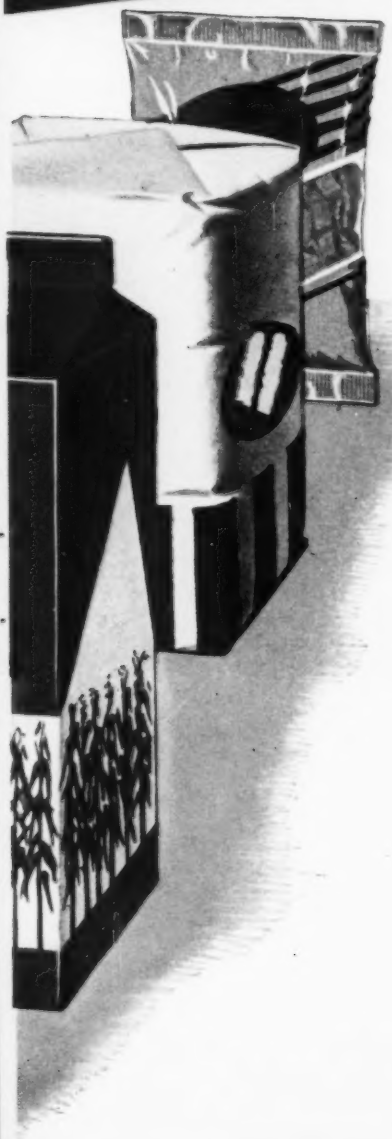
GARFIELD, N. J., 70 Outwater Lane • CHICAGO, ILL., 17 E. Chestnut St.




CONTINENTAL'S TAILOR-MADE
Shellmar
Betner
SERVING INDUSTRY... SERVING AMERICA
You are always close to Continental Can with its 74 plants in the United States, Canada and Cuba, 17 field research laboratories and 66 sales offices.

PACKAGE SERVICE NOW INCLUDES

Flexible Packaging!



Now that the Shellmar Products and Benj. C. Betner organizations have joined the Continental family, we can offer even better service to American industry—*in both the flexible and rigid* packaging fields.

By this move we have created a new division of nine plants specializing in flexible packaging of every description, including bags, pouches, envelopes, wrappers and over-wrappers.

Our facilities for making rigid packaging—such as cans, paper cups, bottle caps, steel pails and fibre drums—are, of course, being expanded continually.

Today, with our various divisions, we can supply precisely the right package for everything from an ounce of potato chips or a cube of butter to 400 pounds of vitamins.

Our new flexible packaging experts work with paper, cellophane, polyethylene, Pliofilm®, wax glassine, and a variety of laminated and coated materials. In the past, with the Shellmar Products Corporation and Benj. C. Betner Co., they pioneered some of the most useful developments in the packaging field.

We welcome them to the Continental family. Their initiative, ingenuity and "do it better" spirit fit right in with our way of doing things. We believe our customers, too, will be happy that they are with us.

CONTINENTAL CAN COMPANY

CONTINENTAL CAN BUILDING — 100 E. 42nd ST., NEW YORK 17, N. Y.

CONTINENTAL CAN COMPANY OF CANADA LIMITED, MONTREAL


TIN CANS


FIBRE DRUMS


PAPER CONTAINERS


FLEXIBLE PACKAGING


STEEL PAILS AND DRUMS


CAPS AND CORK

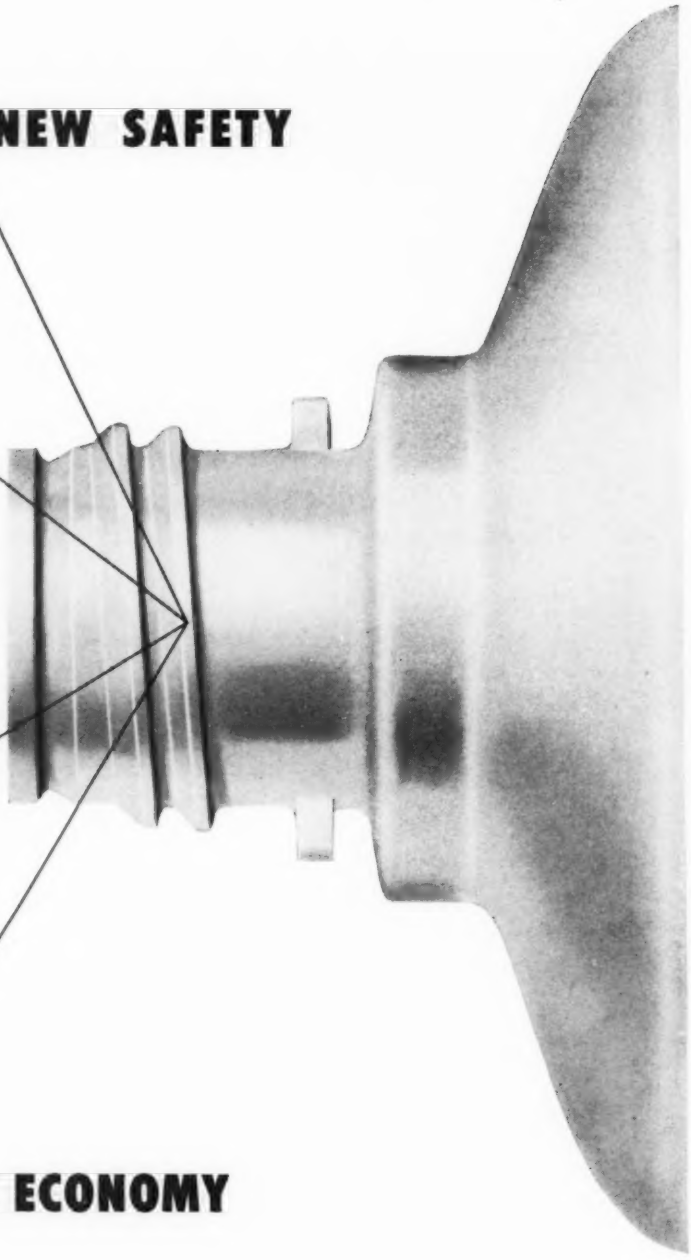

DECOWARE

NEW SAFETY

HANDLE CORROSIVES

NEW EASE

NEW ECONOMY



COMPANIES IN ALMOST EVERY MAJOR INDUSTRY are using one-piece, light weight Plaxpak® carboys. Age-old breakage problems have been eliminated. Employees move and use hazardous chemicals with new ease and efficiency. Carboy replacement costs are practically zero.

DESIGNED FOR SMOOTH POURING. Plaxpak carboys are available in 6½ and 13-gallon capacities, either naked or enclosed in a plywood jacket. Made of inert polyethylene, they are resistant to acids and alkalies. They can be frozen without damage.

YOU CAN ELIMINATE BREAKAGE PROBLEMS in your plant—improve your handling, use and storage of hazardous or expensive chemicals—increase your protection of people and equipment—by adopting Plaxpak carboys. Write for our brochure—and get all the money-saving facts about this modern way to handle bulk liquids.

PLAX CORPORATION

672 FARMINGTON AVENUE

WEST HARTFORD, CONN.

PLAX

PLAXPAK CARBOYS . . . *the safe, saving way to handle bulk liquids*

"SCOTCH" Plastic Tape keeps candy fresh 3 times longer!

It only takes a second to wrap a strip of "Scotch" Brand Plastic Tape No. 471 around cans of candy at Katharine Beecher Candy Company, Manchester, Pennsylvania. And because this stretchy plastic tape is made to fight off air and moisture penetration, the candy stays fresh 3 times longer than it ever did before in the same cans. In fact, the company reports they have practically eliminated returns by dealers.

Look at the other advantages: "Scotch" Brand Plastic Tape No. 471 is *fast*—pressure-sensitive adhesive needs no moistening. It gives an *air-tight, moisture-tight* seal. Can be easily removed. It's *decorative*—comes in 8 colors: red, green, orange, blue, yellow, white, brown and black.

Try it yourself and see! See how it conforms to almost any irregular shape. See how it speeds *your* production, cuts *your* costs. Order a trial supply today, or use coupon below for more information.

SCOTCH BRAND PLASTIC TAPES

WANT MORE FACTS?

Minnesota Mining & Mfg. Co., Dept. MP-103
St. Paul 6, Minnesota

Yes! I'd like more facts on "Scotch" Brand Plastic Tape No. 471 for can sealing.

Name.....

Firm.....

Address.....

City..... Zone.....

State.....

3M COMPANY

The term "Scotch" and the plaid design are registered trademarks for the more than 300 pressure-sensitive adhesive tapes made in U.S.A. by Minnesota Mining & Mfg. Co., St. Paul 6, Minn.—also makers of "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives. General Export: 122 E. 42nd St., New York 17, N. Y. In Canada: London, Ont., Can.

Your Packing Problem Could Be Gaylord's Next Success Story!

Extra weight to hold . . . odd shapes to pack . . . complicated construction and dozens of other unusual requirements . . . seldom stump the experts of Gaylord's Research and Engineering Division. In hundreds of ways they have designed corrugated and solid fibre containers to save packing time, shipping money and protect products better.

Gaylord packaging engineers never say "can't"! For information and cooperation, phone your nearest Gaylord office. It's listed in the classified section of your phone book, under Boxes (Gaylord).

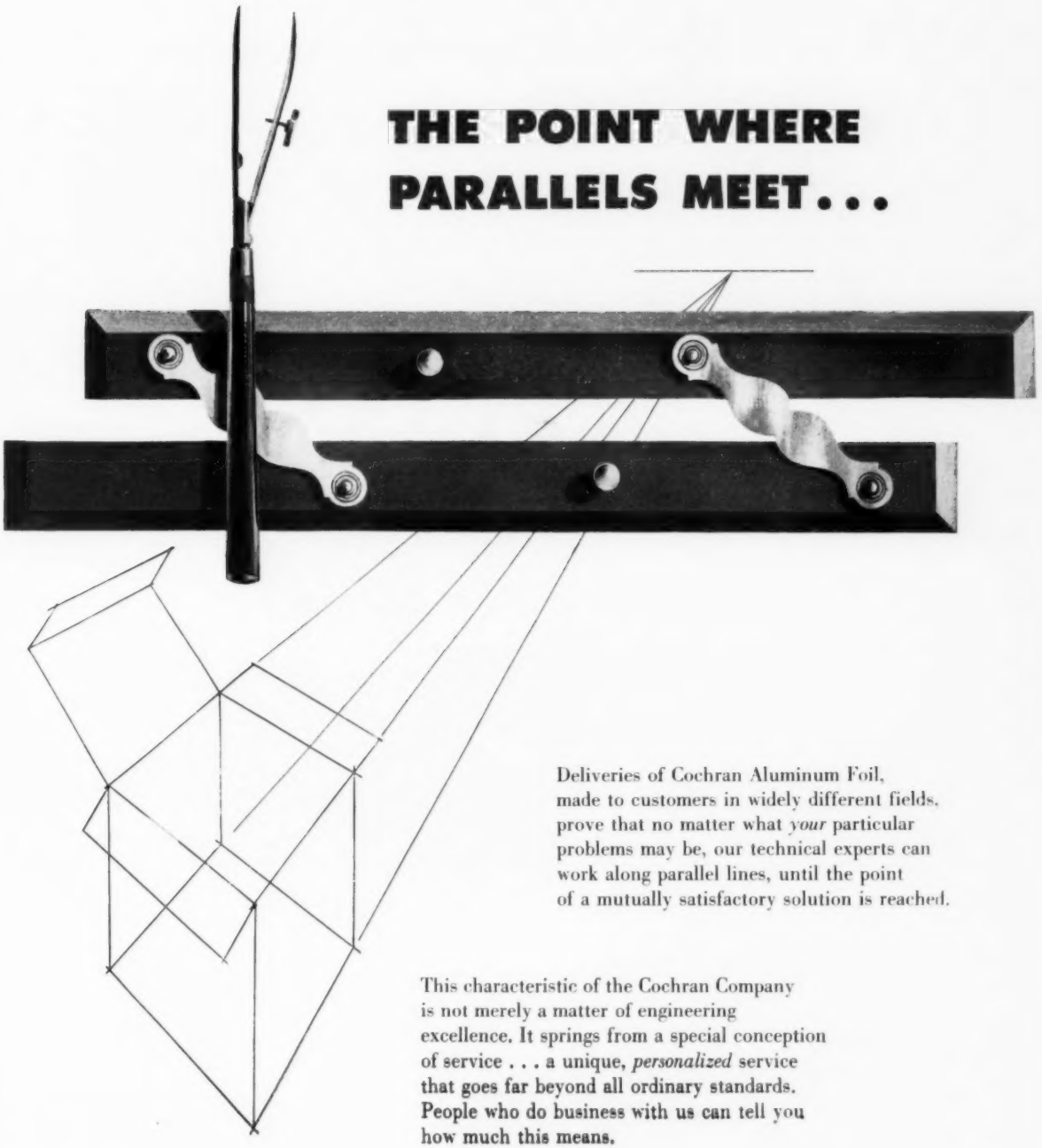
Gaylord Boxes

Their unseen quality gives you an extra margin of safety.

GAYLORD CONTAINER CORPORATION

General Offices: ST. LOUIS • Sales Offices Coast-to-Coast

CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT BAGS AND SACKS • KRAFT PAPER AND SPECIALTIES



THE POINT WHERE PARALLELS MEET...

Deliveries of Cochran Aluminum Foil, made to customers in widely different fields, prove that no matter what *your* particular problems may be, our technical experts can work along parallel lines, until the point of a mutually satisfactory solution is reached.

This characteristic of the Cochran Company is not merely a matter of engineering excellence. It springs from a special conception of service . . . a unique, *personalized* service that goes far beyond all ordinary standards. People who do business with us can tell you how much this means.

Cochran FOIL COMPANY

INCORPORATED — LOUISVILLE 10, KENTUCKY

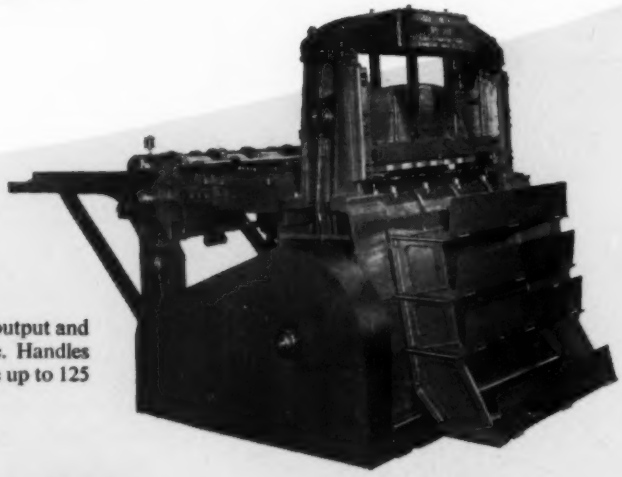
SPECIALISTS IN ALUMINUM FOIL

SALES OFFICES:	714 Wrigley Building Chicago 11, Illinois	238 West Wisconsin Ave. Milwaukee 3, Wisconsin	500 Fifth Ave. New York 36, N. Y.	Hippodrome Building Cleveland 15, Ohio	260 Kearny Street San Francisco 8, California	813 North La Brea Los Angeles 38, California

HAMILTON Can Body Flanger

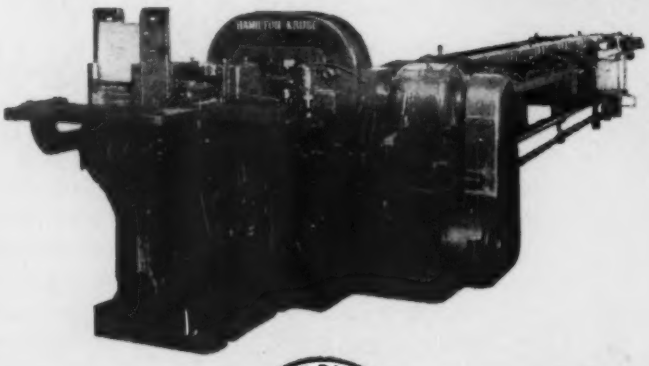
Model 301 automatically flanges up to 300 cans per minute . . . for round cans up to 4¼″ diameter. Three other high-speed flangers for larger round cans and square cans.

HAMILTON



HAMILTON
Scroll Shear

Cuts costs by speeding output and saving 4-7% in tinplate. Handles sheets 25″ to 36″ square up to 125 strokes per minute.



HAMILTON
Bodymaker

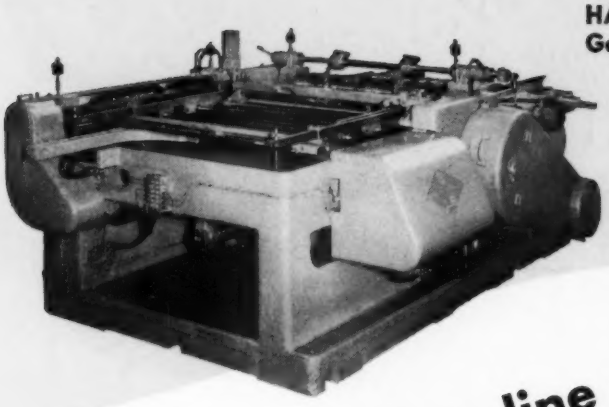
Designed for high speed, completely automatic, long-run production of can bodies from 2-1/16″ to 4¼″ in diameter and 2⅜″ to 5-3/16″ in height.

Write!

For full information and specifications on any Hamilton automatic can machinery, write to Hamilton Works, Baldwin-Lima-Hamilton Corporation, Hamilton, Ohio.

BALDWIN · BLH · LIMA-HAMILTON

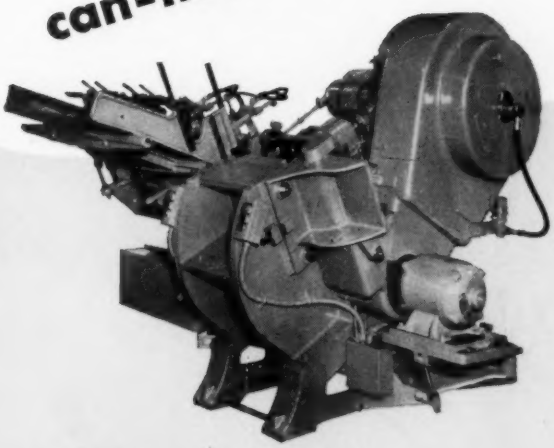
BALDWIN



HAMILTON Duplex Gang Trimmer and Slitter

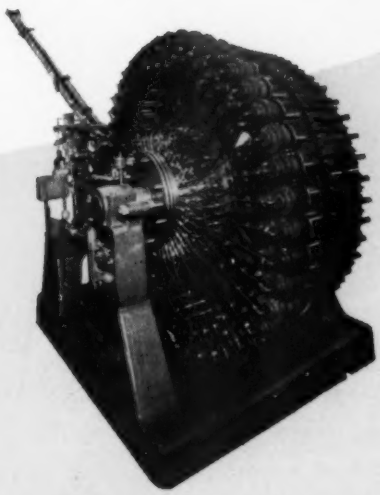
Boosts production by slitting up to seventy 36" sheets and cutting them into body blanks each minute. Newly designed for less maintenance and lower operating costs.

...world's most complete line of modern...high-speed...cost-cutting can-making machinery



HAMILTON Strip Feed Press

Built to last! . . . The last word in high-speed, low-maintenance strip feed presses. Up to 300 strokes per minute.



HAMILTON Can Tester

Capable of speeds above 300 cans per minute, model 301 automatically tests sanitary cans with diameters up to 4¼" and heights up to 7⅜". Model 302 tests larger cans.

LIMA • HAMILTON

HAMILTON WORKS • HAMILTON, OHIO

to swing sales your way...

Reveal the appeal of your product in a LAMCOTE® "showcase" package

Don't hide your product! Reveal its color, texture, finish and special features through the LAMCOTE window of a sparkling "*showcase*" package. Let it *show itself* to *selling* advantage . . . to *swing sales YOUR way!*

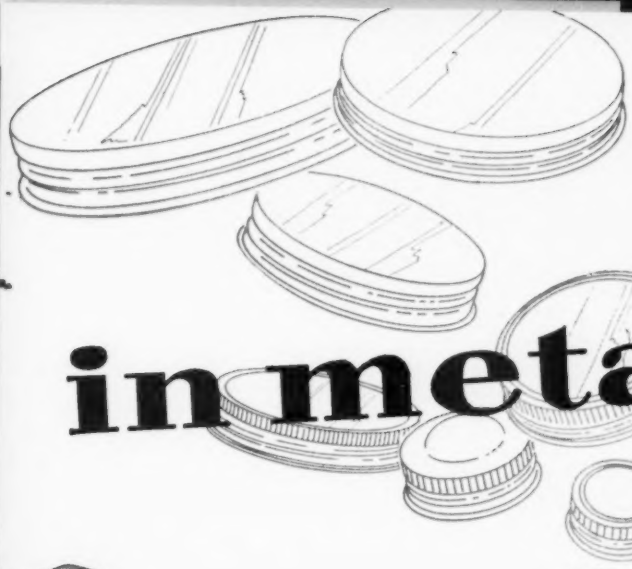
LAMCOTE PACKAGING DIVISION OF

ARVEY CORPORATION

Since 1905 ®

PLANTS:
3462 N. Kimball Avenue, Chicago 18
200 Communipaw Avenue, Jersey City 4

Send us a sample of your present package or product. We'll create a LAMCOTE "*Showcase*" PACKAGE to meet your specific needs. No Obligation.



in metal

there's never a doubt about

BERNARDIN

Metal Screw Caps and Shatter-Resistant Plastic CLOSURES

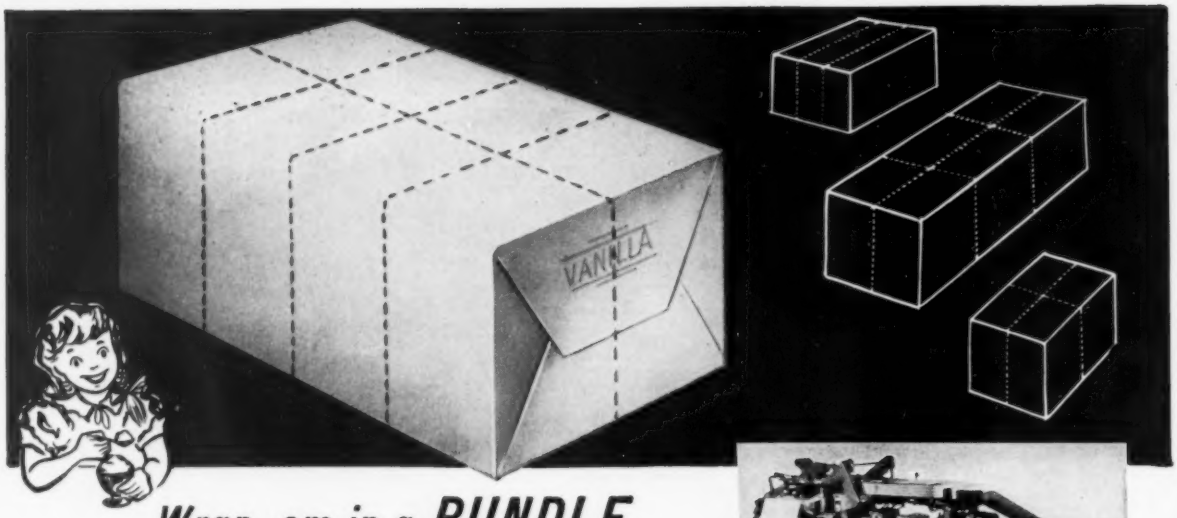
in plastic

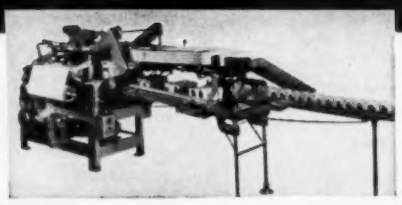
Functional design is not new at Bernardin

That's why *your* BerNARdin closure in metal or plastic, functions smoothly on your lines: functions as a tight seal thru shipment and delivery: functions as a truly smart identification on sales display and, as a final appreciated function, opens to the twist of a woman's hand.

May we talk with you about your closures?

Bernardin Bottle Cap Company
Since 1881 in Evansville, Indiana





Wrap em in a BUNDLE *instead of a box!*

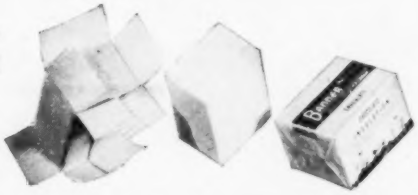
SAVE TIME, LABOR, MONEY with a *Hayssen*

AUTOMATIC ACCUMULATOR and BUNDLE WRAPPER

The Hayssen Accumulating and Bundling Machine will pay for itself quickly because of its surprisingly low first cost (half what you'd expect) and the elimination of expensive cardboard cartons, boxes and other containers. A multiple number of ice cream packages are automatically accumulated and inexpensively wrapped into an easily-handled kraft paper bundle at remarkable speed . . . and with the smooth, dependable operation typical of Hayssen Wrapping Machines.

SAVE HALF THE EQUIPMENT COST on the NEW-TYPE INSULATED ICE CREAM PACKAGE

The Hayssen Automatic Dual Unit measures and cuts the right amount of corrugated insulating paper from a roll . . . die cuts, scores and wraps it around ice cream carton, (no end seals) transfers it to final wrapping station. Printed wrapper is then applied with the Hayssen "Electric Eye." The final overwrapping machine is built closely to and slightly above insulating unit, saving valuable floor space. With *this dual* unit and the *accumulator* and bundle wrapper described above, you have a complete line that meets today's need for reduced packaging and shipping costs.



Hayssen machines cost far less, require less floor space and are noted for overall economy of operation and maintenance. Many Hayssen units are in use today that were purchased over 20 years ago.

WRITE for information on Hayssen Ice Cream Wrapping and Bundling Machines. Tell us your wrapping problems—we have the answer.

IT PAYS TO WRAP THE HAYSSEN WAY

Hayssen MFG. COMPANY

Dept.. MP-10, SHEBOYGAN, WISCONSIN

Since 1910, One of the World's Largest Manufacturers of Wrapping Machines

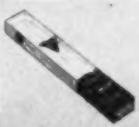

BAKED GOODS


MEATS

TEXTILES


VEGETABLES

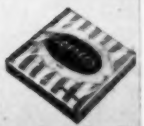

FROZEN FOODS


ODD SHAPES

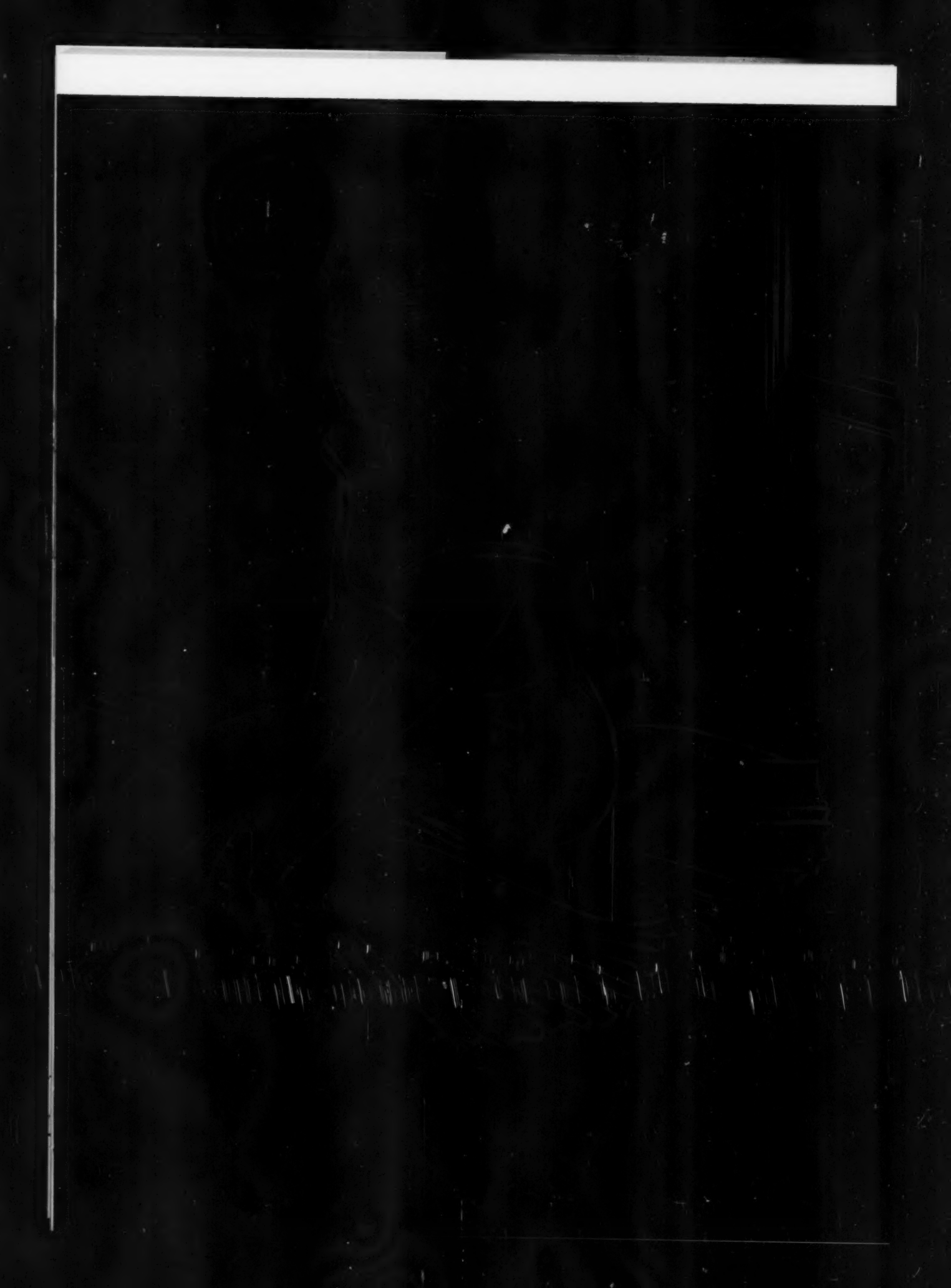

CANDY


ICE CREAM


DAIRY


PAPER


Shell Gives Them More...



Trushay®

"The Beforehand Lotion" is capped with

BEETLE® Plastic

—the forehanded choice for smart closures!

Trushay Lotion, a product of Bristol-Myers, is handsomely capped in cedar green BEETLE plastic to match its label and effectively complement its rich peach color. An eye-stopping combination on counters everywhere! Molded by Owens-Illinois Glass Co.

A standout in the consumer market, Trushay Lotion has an outstanding top made of BEETLE Plastic!

It's outstanding for color—a truly distinctive color that exactly matches the label. (BEETLE can be had in any color desired to carry out your packaging theme!)

It's outstanding for display. (BEETLE closures defy scratching and chipping . . . won't attract dust on counters!)

It's outstanding for chemical resistance. (BEETLE effectively resists alcohol, acetone and common solvents.)

It's outstanding for performance. (BEETLE closures can be so precisely molded they give a good tight seal . . . a seal that won't back up on threads . . . a seal that won't suffer from constant use.

You, too, will find BEETLE is *tops in tops.* For closures —and for packaging, housings, boxes and bases— BEETLE's the answer . . . so beautiful . . . so practical!

AMERICAN Cyanamid COMPANY

PLASTICS & RESINS DIVISION

32C Rockefeller Plaza, New York 20, New York

In Canada: North American Cyanamid Limited
Royal Bank Building, Toronto, Canada

For High Speed Automatic Labeling!

Print Roll-Fed Thermoplastic Labels

New Era Press Prints, Die-Cuts and Completes Every Type Of Roll-Fed Or Individually Cut Label

Heat seal, plain, gummed, silk or cloth labels in rolls can be completed in a single run on one New Era Press at speeds to 7,500 *impressions* per hour. It crisply prints any number of colors; precisely die-cuts any square, rectangular, or odd-shape label; and delivers the finished labels in rolls, zig-zag folded, or individually cut off—all in a single run.

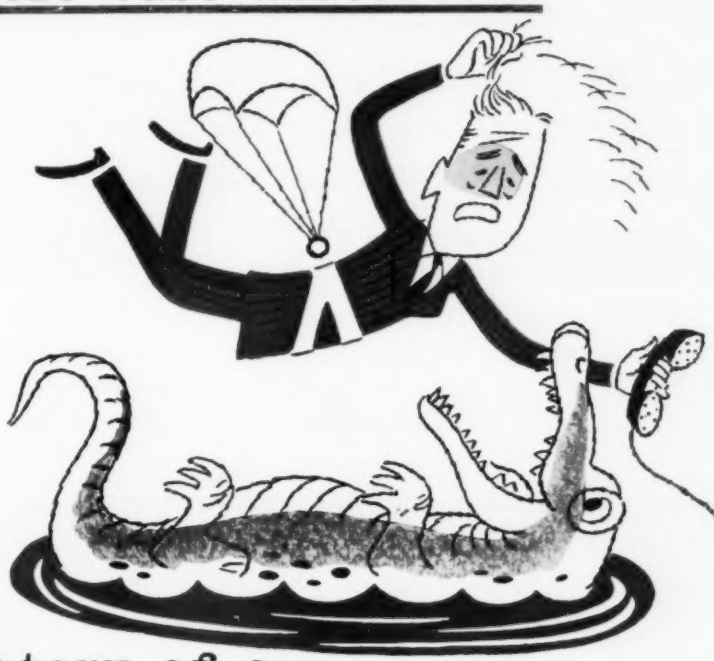
Your free copy of the New Era Bulletin shows you how the New Era Press is set up to print with *flat* electros, type or rubber plates—how it die-cuts, slits, perforates, punches and numbers—delivering the completed labels in one operation.

COMPLETED IN ONE RUN

For complete details about how to produce *every* type of label with one New Era Press, write for your free New Era Bulletin, today.

Manufacturing Company 371 Eleventh Avenue, Paterson, New Jersey

Schoettle Case Histories:



true story of a

Purchasing Agent in a Tough Spot

CASE HISTORY #77 Schoettle makes 35 different boxes for this customer*, Mr. Big in electronic industry. Company decided it unnecessary to box a certain part and allowed inventory to deplete . . . Decision was suddenly reversed . . . Purchasing Agent found himself in a tough spot. Needed boxes . . . three colors and varnish . . . in ten days—and no cutting corners on quality! Schoettle delivered on time, of course!

CASE HISTORY #22 Customer* needed a box to contain and properly display a teapot and a container of tea bags . . . Shape of a teapot and much smaller box of tea bags presented first magnitude problems. Purchasing Agent was in a tough spot. Had to have what was wanted . . . Schoettle engineers designed smart package that protected the teapot and gave excellent display at same time. Company and PA were vociferous in praise.

Schoettle customers never worry about box problems or box needs because they know that as long as they're Schoettle customers they have nothing to worry about! And Purchasing Agents, too, *have* discovered that it's swell to have Schoettle on their side especially when they find themselves in a tough spot . . . Schoettle takes care of its customers. May we show you?

*name on request

EDWIN J. SCHOETTLE CO.

533 NORTH ELEVENTH STREET • PHILADELPHIA 23, PENNA.

Designers and Manufacturers of Paper Boxes with Buy Appeal

More SALES APPEAL

WITH LESS PACKAGING AND SHIPPING COST...AND NO BREAKAGE with IMCO PLASTIC CONTAINERS

(in any color under the sun)

MANUFACTURED BY INJECTION MOLDING CO.

PLASTIC BOTTLES

Leakproof atomizer or spout and closures. Hot stamped printing of your label and copy in ½, 1, 2, 4, 6, 8 and 12 ounce sizes. All parts manufactured in our own plant assuring you perfect fit. A complete container ready to fill with powder or liquid.

CUSTOM CONTOUR CONTAINERS

For shape and distinctiveness, these containers are the last word in originality of design. Available in any color—complete with hot stamped printing of your label and copy.

MANUFACTURED BY FLEXCEL CONTAINER CO.

PLASTIC JARS

MANUFACTURED BY EXCELSIOR PLASTIC CO.

Here is the answer to your breakage problem. The only plastic jar in the world with double wall construction to give protective insulation, overcome permeation. Lightweight plastic construction stops breakage, cuts down packaging and shipping cost. Available in any color with standard GCMI finishes. Available in 1, 2, 4 ounce sizes. Hot stamped printing of your label and copy.

YOUR PRODUCT will have eye appeal—sales appeal

WHEN YOU SEE THIS MARK

FLEXCEL

You're looking at Quality

with IMCO PLASTIC CONTAINERS

ANY COLOR - ANY SHAPE - LIGHT - NON-BREAKABLE

Progressive manufacturers the world over are turning to IMCO.

Write, wire or call today for samples.

IMCO CONTAINER CORPORATION

Sales Agent for

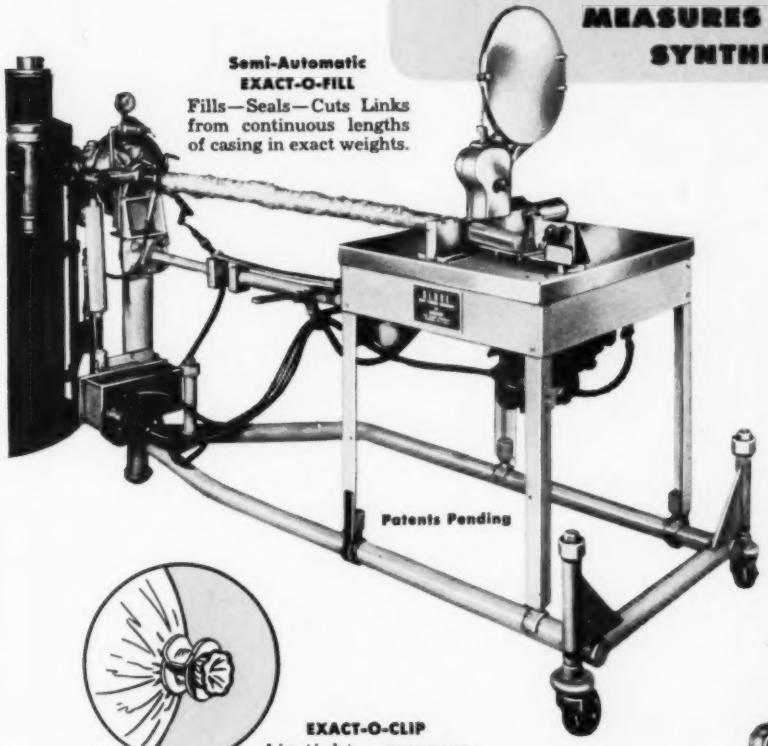
INJECTION MOLDING CO.
FLEXCEL CONTAINER CO.
EXCELSIOR PLASTICS CO.

SEVENTY-FIFTH AND CLEVELAND STREETS
KANSAS CITY 30, MISSOURI
TELEPHONE EMERSON 4250

EMPIRE STATE BUILDING, ROOM 6905
350 FIFTH AVENUE
NEW YORK 1, NEW YORK
TELEPHONE CHICKERING 4-0578

GLOBE Announces... EXACT-O-FILL®

MEASURES • FILLS • SEALS SYNTHETIC CASINGS



Semi-Automatic EXACT-O-FILL
Fills—Seals—Cuts Links from continuous lengths of casing in exact weights.

Patents Pending

EXACT-O-FILLER
Meters exact weights of semi-viscous material — adjustable from 6 oz. to 20 oz.—Air operated—Sanitary — Available as separate unit.

EXACT-O-CLIP
Air tight — pressure sealed — will not injure casing.

EXACT-O-CLIPPER
Gathers and seals casing tight with aluminum clip —closes both ends of link —4800 clips per reel—low cost closure clips—air operated—Available as separate unit.

Now for the first time Globe offers to the Industry a semi-automatic machine which fills exact weights of product into continuous lengths of casing, seals off each length with an amazing new aluminum clip and cuts the link free. All with the use of one operator.

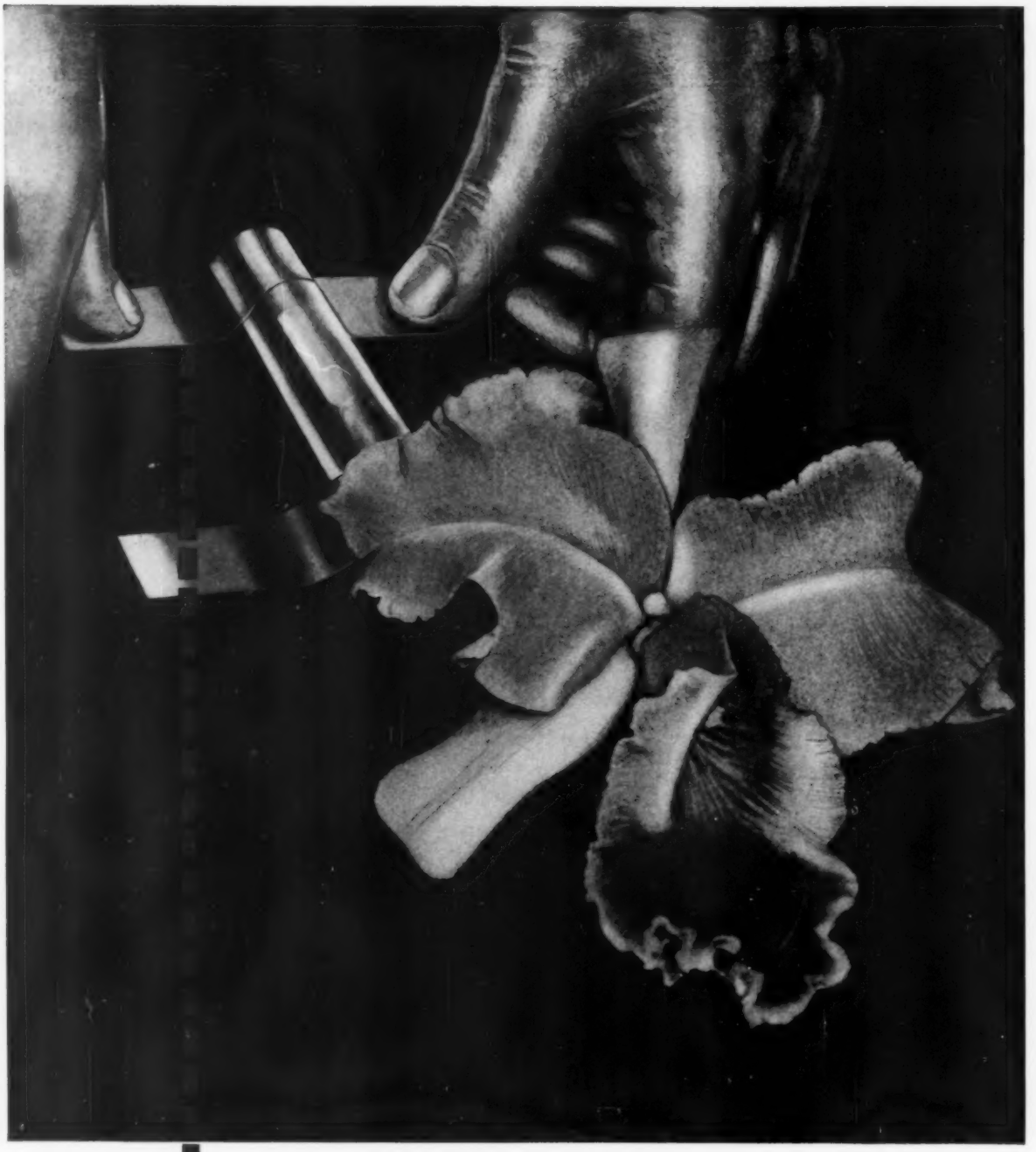
• Measures 6 oz. to 20 oz. • Saves 20% casing costs • Saves up to 75% Labor costs • Improves package appeal • Easy to clean.

GLOBE CHIC

The GLOBE Company

MANUFACTURERS SINCE 1914

4000 S. PRINCETON AVE. CHICAGO 9, ILLINOIS



Water containers ship safely, held firmly in place by Blue Tab Cellophane Tape. No doubt there is an important use for Blue Tab **TEXCEL** in your business. Our Tape Engineering Service can give you the answer . . . without obligation.

TEXCEL®

CELLOPHANE TAPE

PERMACEL TAPE CORPORATION, NEW BRUNSWICK, N. J.

There's a new standard of quality in flexographic printing on the face of cellophane and polyethylene. It's a standard that calls not only for richness of color and clean, sharp impressions, but also for a sparkling *high-gloss* finish. You can achieve this standard in your flexographic work by filling the fountains with BBD's EXCELLOBRITE INK... the new *high-gloss* ink you can use, without any alteration whatever, on almost all coated cellophanes (except Saran-coated) and all treated polyethylene film.

EXCELLOBRITE INK is 100% pigmented and has the same running qualities as our standard EXCELLOPAKE "400" INK. That means you can handle high-gloss EXCELLOBRITE on your press in exactly the same manner and run it at your regular speeds. Like all BBD INKS, EXCELLOBRITE assures maximum printability and color-strength, excellent adhesion, flexibility and block-resistance. And, while EXCELLOBRITE does cost a little more (it's a premium-quality ink for premium-quality results), EXCELLOBRITE's extra mileage keeps your ink costs at a constant level.

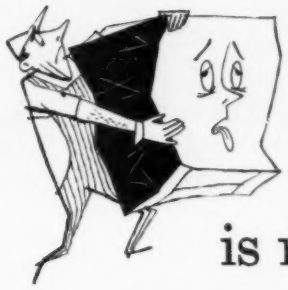
So, if it's *high-gloss*, top-quality printing you want — on the face of cellophane or polyethylene — specify BBD EXCELLOBRITE INK.

For information or service contact your nearest BBD office... or write direct to Bensing Bros. & Deeney, 3301 Hunting Park Ave., Philadelphia 29, Pa.

• Flexographic ink problem?
Put it up to a "shirt-sleeved"
BBD flexographic ink specialist

Bensing Bros. and Deeney
SALES COMPANY
Flexographic Ink Specialists
PHILADELPHIA • CHICAGO • WAKEFIELD, MASS.
Pacific Coast: A. M. BOJANOWER, Los Angeles
Export: McLAURIN-JONES CO., New York
Canada: MANTON BROS., Toronto


perfect packaging
FOR LOWER COSTS-
GREATER SALES
You can have the world's finest packaging — Ⓤ Super-Sealtite* Feather-Light Tear. You can have all the packaging engineering skill of the leader in the unit packaging field. You can have your own packaging department, without any of the headaches and costs of production overhead.
And, perfect packaging brings to your product unqualified consumer approval through convenience, attractiveness and protection. When you have these you have greater sales.
Take advantage of the complete Ⓤ service. Send us your product in bulk. It makes no difference whether it is in large quantity or small — in powder, cream, tablet or capsule — for sampling or standard sale use . . . we will return it to you ready for shipment and in the perfect package — Ⓤ Super-Sealtite.
We will be glad to send samples upon request.
*PAT. PENDING
NOTICE!
Super-Sealtite provides . . .
Feather-Light Tear (not just a series of pin-point perforations).
Double tear notches—on opposite sides of each pocket.
Complete Protection—attained through selection and adaptation of the right packaging material for your product.
Easy Adaptation of package to varying product sizes, requirements and new package design.
These are the plus features you get!
IVERS LEE CO.
215 CENTRAL AVENUE
UNIT PACKAGING
NEWARK, NEW JERSEY
Creators of SUPER-SEALTITE — the Package That Never Stops Selling



is rough handling

beating the "SELL" out of your product?

If your package shows signs of travel fatigue by the time it gets to market, it's time to check up on the materials you're using for protective packaging.

Cromwell's new flexible-laminated protective papers are good insurance that your package will land on the dealer's shelf with all the eye-appeal you've carefully engineered into it. These new papers have the rugged strength you'd expect only in a hard, flat sheet . . . yet they're flexible enough to conform perfectly to your package. They're waterproof, puncture-resistant and tear-resistant.

Specify Cromwell papers wherever you need a conforming exterior protective wrapping . . . as liners for crates or cartons . . . or any other place where waterproofness, strength and flexibility are important.

The coupon is for your convenience in asking us for free samples and ideas you may be able to use in doing a better packaging job. **FLEX-FIBRE,** flexible, laminated-reinforced; **FLEX-LAM,** flexible, laminated only; **FIBRE-KRAFT,** laminated-reinforced.

From the Gardner Gallery of famous American Packages

Quality

...IS NEVER A STAND-STILL WORD

Few products achieve a reputation for quality by standing still, by indulging in the luxury of self satisfaction.

As a matter of fact, quality *itself*, as every successful manufacturer knows, is a relative thing. There is only one way to keep it out in front.

That's why, here at Gardner, we believe in never being quite satisfied with a good job. We feel an obligation to ourselves—and to our customers—to do even better, tomorrow, what we have gained recognition for doing well, today.

We think that's an important reason why you'll find so many of America's most famous products packaged in Gardner cartons.

THE GARDNER BOARD AND CARTON CO.

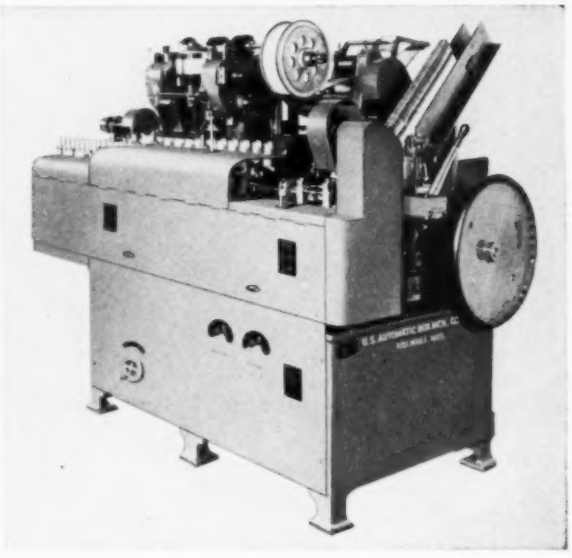
Manufacturers of Folding Cartons and Boxboards

GENERAL OFFICES: Middletown, Ohio—PLANTS: Middletown, Ohio; Lockland (Cincinnati), Ohio
Sales Offices in Chicago, Cleveland, New York, Philadelphia, Pittsburgh, St. Louis

GARDNER ®

Eliminate CHANGE-OVER TIME

The Versatile C-10-CC Candy Filler Packs all these types of candy without adjustment



Candy manufacturers and distributors who package a wide variety of hard, semisoft or easily marred candies will find the Model C-10-CC Volumetric Filler ideal for their multiple requirements. It will handle all their products without adjustment when package size and volume are kept uniform. The Model C-10-CC automatically extracts the flat carton, opens it, tucks bottom flaps, cuts, forms and inserts liner into the carton and then volume fills the correct amount of candy. When desired, the liner may be omitted. Final operation on the C-10-CC folds the top of the liner closed and tucks and closes the top flaps of the carton. An automatic check weigher rejects any underweight packages. Only one operator is required to supervise the machine, and speeds of 60 filled cartons per minute are available.

Check the many varieties of candy packages shown and you'll see how the C-10-CC can fill your packaging problem. Write for complete details today.

US NET & GROSS WEIGHING ★ PACKAGE FORMING & FILLING ★ CARTON SEALING, LINING, WRAPPING ★ BOX MAKING

AUTOMATIC BOX MACHINERY CO., INC.

Owning and Operating NATIONAL PACKAGING MACHINERY CO. ★ CARTONING MACHINERY CORP.

122 ARBORETUM ROAD, ROSLINDALE, BOSTON 31, MASS.

Here's a new name in packaging materials— IVITHENE . . . from a company with almost 15 years' experience in plastic extrusion

IVITHENE is polyethylene extruded in film, lay-flat tubing and heavy sheeting. It offers all the remarkable advantages of top quality polyethylene and has achieved wide acceptance as material for drum liners, multiwall bag liners, textile wraps, produce packaging and fabricated containers.

And it offers an important *additional* advantage—Irvington's extensive production facilities permit unusually *prompt delivery* to users—both large and small.

For information on characteristics, suggested applications and technical properties, just mail the coupon below for your copy of our IVITHENE booklet on packaging materials.

SEND THIS CONVENIENT COUPON NOW

IRVINGTON
VARNISH & INSULATOR COMPANY
28 Argyle Terrace, Irvington 11, New Jersey
Plants: Irvington, N. J.; Moorpark, Calif.; Hamilton, Ont., Can.

Irvington Varnish & Insulator Co. MP-10/53
28 Argyle Terrace, Irvington 11, N. J.

Gentlemen:
Please send me your 8-page booklet on IVITHENE packaging materials.

Name_____
Company_____
Street_____
City_____ Zone_____ State_____

FROZEN FOOD CANISTER LABELS *with* HIGH LUSTRE PROTECTION

Snow Crop canisters photo courtesy Clinton Foods, Inc. New York, N. Y.

...thanks to

PYROXCOTE*

FROST-SHEDDING PAPER COATING

NOT STAINED BY FRUIT JUICES • GLOSSY • ABRASION-RESISTANT

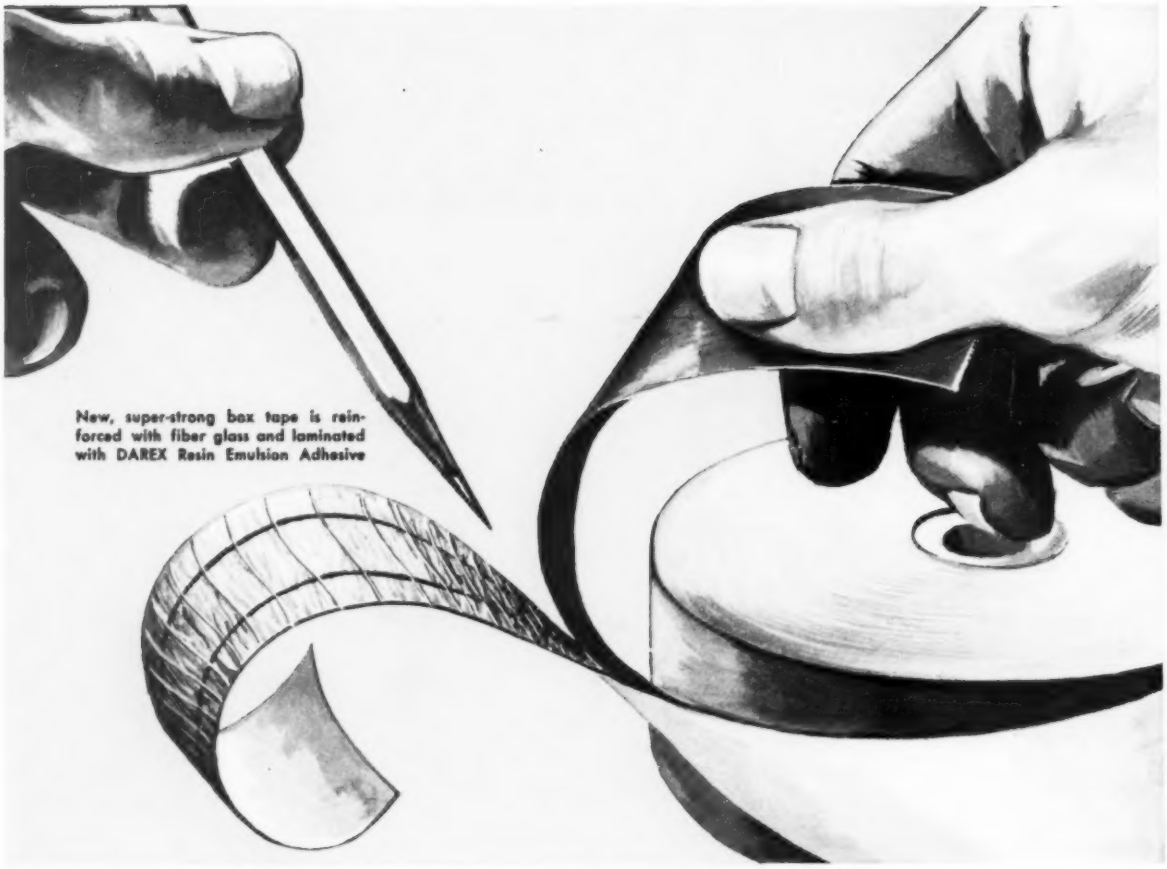
Pyroxcote is the perfect paper coating for frozen food canister labels (and for most other labels, too). If you make labels, you can apply Pyroxcote or your finisher can. Let us send you,without obligation, our list of label manufacturers and finishers who operate with Pyroxcote.

PYROXYLIN PRODUCTS, *Inc.*
CHICAGO 32

PAOLI PENNA.

WICHITA KANSAS

*T. M. Reg. U. S. Pat. Off.



New, super-strong box tape is reinforced with fiber glass and laminated with DAREX Resin Emulsion Adhesive

DAREX R·E·A solves tough laminating problem

Are you looking for a special laminant with *varied* properties? Consider how DAREX Resin Emulsion Adhesive meets the complex requirements of box tape laminators. It is extremely *water-resistant.* It forms a bond of kraft to glass-fiber that is strong yet *flexible.* It is *unaffected by temperature.* It won't bleed. It can be used on any stock from porous to highly sized; for lamination of paper to other paper, film or foil. It is mold and vermin proof.

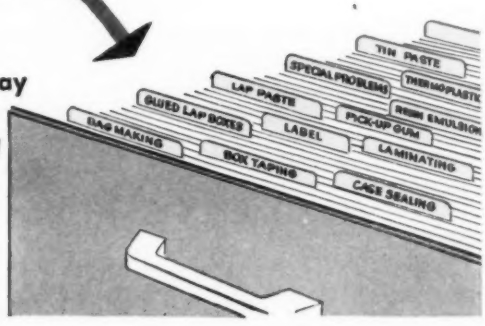
DAREX Resin Emulsion Adhesive also offers definite production advantages. It grabs fast, with fiber tear in minimum compression time. It's very economical because of high speed and high yield.

But . . . why not test these advantages yourself, in *your* plant, on *your* stock? Write on your letterhead for a generous sample, today.

DEWEY and ALMY
Chemical Company

Cambridge 40, Mass. — Montreal 32, Canada
Chicago 38 — San Leandro, Calif.

The solution to *YOUR* adhesives problem may be in our files *NOW!*



A master package by

PACKAGE PRODUCTS

SOUTHGATE FOODS

Product:	Line of dried beans and peas
Description:	Bags and wraps supplied in roll form for use on automatic packaging machine. Three color surface printing.
Sales Status:	Clean package design, strong colors, and legibility make bags formed from this web outstandingly successful in supers and other retail outlets.

When friendly, cooperative, and dependable service must be linked with exceptional package printing, Package Products is the converter to see. One of the important *extras* safeguarded by our exclusive "Rotochrome" quality control system is constant tension rewinding for close register of colors and accurate electric-eye repeats, resulting in higher machine productivity and less waste for users.

Package Products Company
Charlotte, North Carolina

PACKAGE PP PRODUCTS ®

At your age!

If you are over 21 (or under 101) it's none too soon for you to follow the example of our hero, Ed Parmalee, and face the life-saving facts about cancer as presented in our new film "Man Alive!". You'll learn, too, that cancer is not unlike serious engine trouble—it usually gives you a warning:

(1) any sore that does not heal (2) a lump or thickening, in the breast or elsewhere (3) unusual bleeding or discharge (4) any change in a wart or mole (5) persistent indigestion or difficulty in swallowing (6) persistent hoarseness or cough (7) any change in normal bowel habits.
While these may not *always* mean cancer, any one of them should mean a visit to your doctor.
Most cancers are curable but *only* if treated in time!

You and Ed will also learn that until science finds a cure for *all* cancers your best "insurance" is a thorough health examination every year, no matter how well you may feel—twice a year if you are a man over 45 or a woman over 35.

For information on where you can see this film, call us or write to "Cancer" in care of your local Post Office.

American Cancer Society

MAN ALIVE! is the story of Ed Parmalee, whose fear weakens his judgment. He uses denial, sarcasm and anger in a delightful fashion to avoid having his car properly serviced and to avoid going to a doctor to have a symptom checked that may mean cancer. He finally learns what a difference it makes (in his peace of mind and in his disposition) to know how he can best guard himself and his family against death from cancer.

A NEW ADVERTISING MEDIUM...

Another

RHEEM FIRST!

Rheemcote Poster Drums
beautifully lithographed in multi-colors
for ROHM and HAAS

This colorful 30-gallon steel shipping container, designed by Rohm & Haas for Dithane, an agricultural fungicide, was produced by Rheem on the world's largest metal decorating presses. This is the first large steel container printed by four-color process lithography.

This drum does double duty! It serves both as a sturdy shipping container and as an attractive display.

Rheemcote poster drums can be lithographed with any design in any number of colors to provide powerful advertising, plus family identification for all your containers, large or small.

For more information, write—Rheem Manufacturing Company, General Sales Offices, 570 Lexington Ave., New York 22, N. Y.

RHEEM
World's Largest Manufacturer of Steel Shipping Containers

Rheem Manufacturing Plants in 22 Cities Around the World

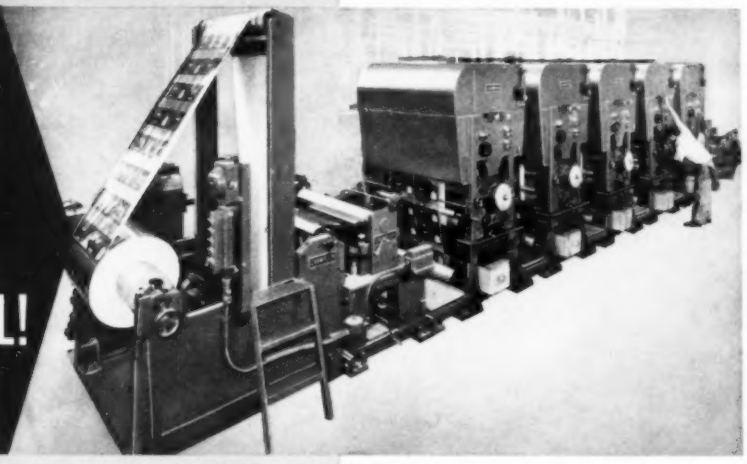
high-speed, high-volume printing and converting are simplified

. . . with this NEW Rotogravure Press with Rewind Delivery

the secret is

CENTRALIZED CONTROL!

All press equipment can be controlled from each color or control station. All controls are on the operator's side of the press. All running controls are FULLY AUTOMATIC.



AUTOMATIC COMPREHENSIVE CONSTANT-TENSION CONTROL . . . from roll stand to delivery, hydraulically-actuated mechanisms maintain constant, *balanced* tension on all points of the continuous web.

AUTOMATIC ELECTRONIC RUNNING-REGISTER CONTROL OR MANUAL PUSH-BUTTON CONTROL . . . maintains precision printing register at all production speeds.

AUTOMATIC MAINTENANCE OF PRINTING PRESSURE – Hydraulic impression cylinders maintain, and return to, exact pre-set printing pressure.

The *only* adjustment required to operate press over full printing range is the Vernier setting of the variable speed pull tension control which:

1. *Stabilizes web travel throughout printing section.*
2. *Permits rewinding delivered rolls of ANY DESIRED DENSITY!*

This precision-built *complete* rotogravure unit prints *most* stocks—from light films to heavy, rough papers and board—with impression pressures from 0 ("kiss") contact to 400 lb. per lineal inch. Precision-built for sensitive, delicate work, yet able to withstand heavy impressions, this unit will give more-than-satisfactory service for years with practically no maintenance. It will maintain accurate register and fidelity of reproduction—even with heaviest production schedules.

Models	14"*	20"*	26"	36"	44"
Max. Print. Width	14"	20"	27"	36"	44"
Max. Web Width	15"	21"	28"	37"	45"
Min. Cyl. Circum.	9"	13"	17"	17"	17"
Max. Cyl. Circum.	18"	26"	34"	34"	34"

Production speed (with rewound roll delivery) on:	Speeds up to
Cellophane	500 feet per minute
Glassine, sulphite, light paper, paper-backed foil	600 feet per minute
Kraft and heavy paper and board	800 feet per minute

*14" and 20" models maintain printing pressure by electric push button control.

FULLY-AUTOMATIC RUNNING CONTROLS *PLUS* ALL THESE QUALITY FEATURES:

- Heavy duty unit drives maintain register with minimum control.
- Full retention of all tonal qualities in printing cylinder insured by full-range doctor blade adjustment, sensitive hydraulic impression adjustment, and uniform inking in the first quadrant of printing cylinder with secondary inking.
- Individual color unit dryers provide maximum area of web under dryers with minimum web leads.
- All printing units readily converted to back printing without turning bars.
- Equipment explosion-proof wired.

Write today for catalog of Champlain press equipment and full information on NEW Champlain Rotogravure Presses with Rewind Delivery. **Champlain Company, Inc., 88 Llewellyn Avenue, Bloomfield, N. J. Chicago office: 520 N. Michigan Avenue, Chicago 11, Ill.** 3308

Champlain

Champlain manufactures a complete line of roll-fed rotogravure, flexographic, letter press, cutting and creasing and allied equipment for packaging and specialty printing.

It's ALWAYS been 3-D with HAZEL-ATLAS

DESIGN...

H-A glass packages are planned for efficiency on the production line and for sales.

DELIVERY...

H-A glass jars and bottles are made in a factory near you for economy in shipping. They are light-weight for additional saving, and for easy handling.

DEALER-ACCEPTANCE...

Every H-A container is planned for shelf-appeal... both in the store and in the home. Dealers know that good display means good selling.

HAZEL-ATLAS GLASS COMPANY *WHEELING, W. VA.*

Look to LYNCH for BETTER Packaging

It takes a *great many* different things to make up *really* better packaging. Improved package appearance is only one of many goals to consider. For instance, it may be that your major problem is saving manpower or reducing maintenance costs—improving general operating efficiency.

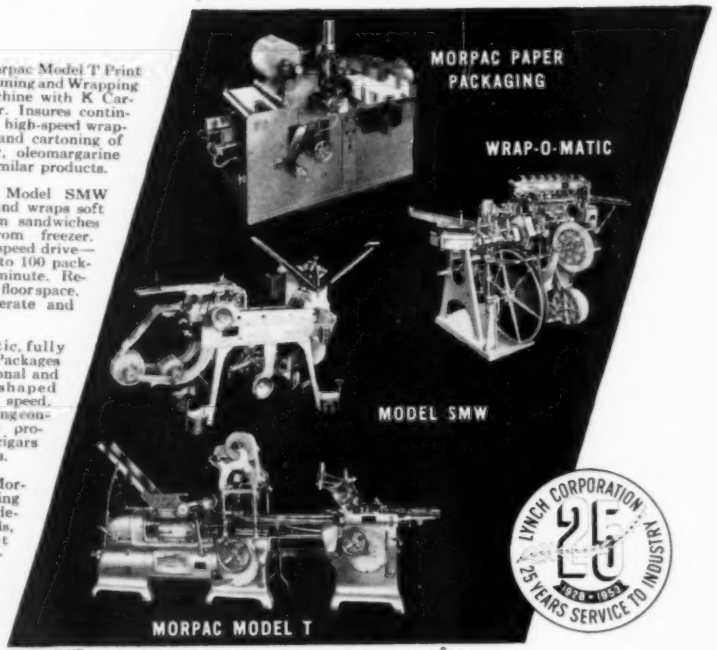
Whatever the problem—where *better* packaging is concerned—Lynch engineers have had the experience needed to solve it. For more than twenty years, Lynch engineers have worked with industry in providing *better* packaging, measured by any of the many standards of performance. They're ready to help you, too, at any time. Just call or write.

Morpac Model T Print Forming and Wrapping Machine with K Cartoner. Insures continuous, high-speed wrapping and cartoning of butter, oleomargarine and similar products.

Lynch Model SMW makes and wraps soft ice cream sandwiches direct from freezer. Variable speed drive—wraps up to 100 packages per minute. Requires small floor space. Easy to operate and maintain.

Wrap-O-Matic, fully automatic. Packages both conventional and irregularly shaped items at high speed. Used for packaging confections, bakery products, pencils, cigars and other products.

Fully automatic Morpac Paper Packaging machine, especially designed for paper mills, converters, tablet manufacturers, publishers and printers. Wraps or bands pads, reams and other rectangular objects.




PAR AIR COMPRESSORS


ICE CREAM SANDWICH WRAPPING MACHINES


WRAP-O-MATIC CANDY & COOKIE WRAPPING MACHINES

LYNCH CORPORATION

PACKAGING MACHINE DIVISION

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Steigerwald GOLD and SILVER

EMBOSSED FOIL SEALS

ON PRESSURE SENSITIVE STOCK

World's fastest hand labeling operation

Just pick them off and press them on. Stick to all surfaces—Hold securely where others fail.

Remove easily—No water—No Glue—No Cleanup.

Labelsmiths

labels all kinds all types complete service

It's worth a phone call or letter today...

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Is your cutting modern?

Believe it or not, some plants are still cutting material into sheets by hand! Have you checked *your* cutting lately? Do you know there's a machine that will cut automatically? The Beck Automatic Roll Sheet Cutter cuts, counts and stacks anything that comes in rolls. Many firms have had their unusual problems solved by Beck engineers. Why not you? Write today.

CHARLES BECK MACHINE CORPORATION
406 N. 13th Street BECK Philadelphia 8, Pa.

Pacemakers since 1864 in the ENGINEERED APPLICATION of SHEET CUTTERS and SLITTERS

Wait a minute!

You'll enjoy it more with Enrico's

"A FLAVOR YOU'LL REMEMBER"

. . . this is the slogan of Enrico's spaghetti sauces, and a very appropriate one, too.*

Anyone who has used Enrico's will tell you that they're just the thing to make spaghetti a dish that's fit for a king. Easy to prepare, too . . . simply heat and serve.

Enrico's products are vacuum sealed with Crown Screw Caps that have the Slip Rubber Ring liner. You'll find this combination on an ever-increasing number of hermetically sealed products. And here's why. The Screw Cap has the famous Deep Hook Thread that gives a sure seal, yet spins on the jars easily on the production line. Crown Slip Rubber Rings are made *extra* thick, won't cut through . . . and they have a special lubricant that prevents them from sticking to the glass.

If you're interested in obtaining the correct closure for your products . . . vacuum packed or not . . . you can't choose a better man to talk to than your Crown Closure Representative. Get in touch with him today.Crown Cork & Seal Company, Baltimore 3, Maryland. *World's Largest Makers of Metal Closures.*

**Enrico's Real Home Style Products are packed by the Ventre Packing Company, Syracuse, New York.*

CROWN CLOSURES

Approved by Millions of Housewives

You can always be sure of deliveries when you use Sun Tubes. For we make it our business to meet delivery dates. Ask anyone.

Sun Tube Corporation

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Collapsible Metal Tubes · Aluminum and Zinc Cans

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Dallas 2, Texas: R. P. Anderson Co., 1122 Texas Bank Building
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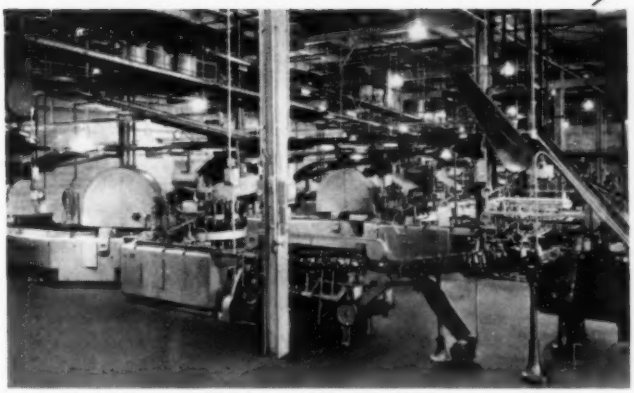
FITCH and PNEUMATIC

BOTH *designed* **TO KEEP TROUBLE OUT OF YOUR HAIR!**



View of Pneumatic Close-Coupled bottling lines in production of FITCH hair preparations at new plant of Grove Laboratories, Inc., St. Louis, Missouri.

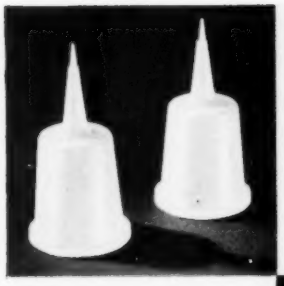
Grove Laboratories have been "expanding", so to speak, since they started business at Paris, Tennessee in 1889. In 1949 they acquired the famous FITCH hair preparations and added this business to their flourishing line of proprietory cold remedies.

To enlarge production capacity, Grove built a brand spanking new plant of modern design and has occupied it since 1952. As part of a progressive program to step up and *smooth out* production, Grove installed four Pneumatic Close-Coupled bottling lines to handle its FITCH output. The last word in automatic high speed cleaning, filling, capping and labeling equipment, these Pneumatic units deliver the goods without delay and with the very minimum of adjustment or attention. Down to the last detail they are designed to establish and maintain new high standards of "lower cost per container" performance. And they're doing it — day in and day out — here and elsewhere, in American's foremost factories.

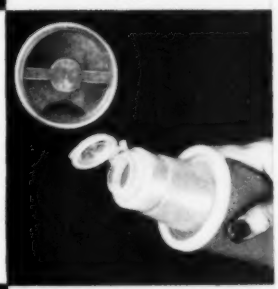
PNEUMATIC SCALE CORP., LTD., 82 Newport Ave., Quincy 71, Mass. *Also: New York; Chicago; San Francisco; Los Angeles; Seattle; Leeds, England.*

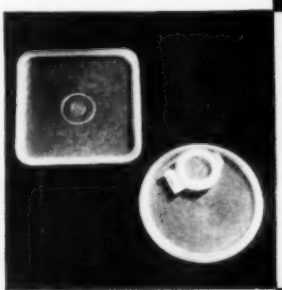
★ PNEUMATIC

Packaging and Bottling Equipment



NOBODY HAS AS MUCH EXPERIENCE AT MOLDING POLYETHYLENE AS TUPPER!





Tupper Seals are air and liquid-tight flexible covers. The famous Pour All and Par Top covers are designed for easy dispensing. They are made in sizes to fit all Tupperware containers.

The logical molder for you to consult regarding that product or package of yours which is to be made of polyethylene is Tupper. Tupper has done more than any other molder to make molded polyethylene a practical reality.

Aside from having designed, patented, and promoted successful seals, closures, and dispensers for polyethylene containers, the Tupper Corporation has vast experience in *every phase* of polyethylene packaging and polyethylene injection molding. This experience will be of major importance in improving your product, in reducing your costs, when Tupper goes to work for you.

Tupper's combination of experience, technical ingenuity, and the most modern equipment is at your service for the custom molding of your product in polyethylene. You can do no better than the best ...and the best at molding polyethylene is Tupper!

When equipped with Tupper Seals, Tupper Canisters, Sauce Dishes, Wonder Bowls, Cereal Bowls and Funnels in various sizes are the most versatile reusable containers you have ever seen.

TUPPER! TRADE MARK

TUPPER PRODUCTS ARE FULLY PROTECTED

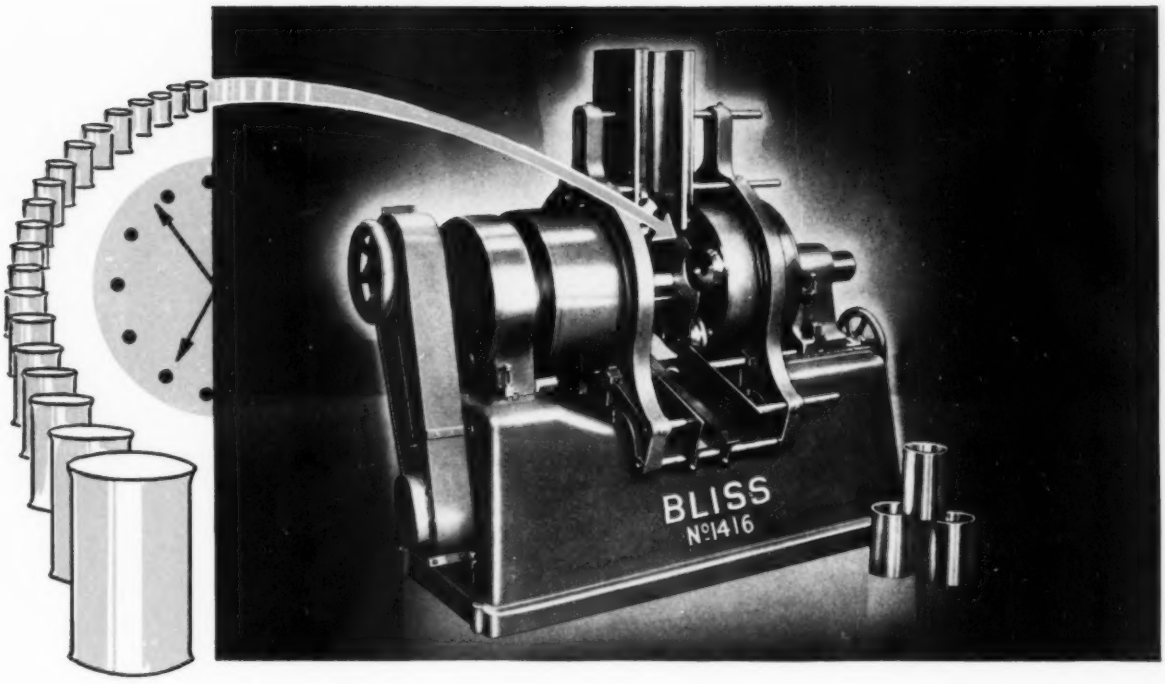
About 150 United States and foreign patents and patents applied for, plus numerous trademarks and copyrights, cover the design and manufacture of the various types of Tupper Seals and other Tupper Products. Unauthorized manufacture of items covered by Tupper patents will subject infringers to prosecution.

TUPPER CORPORATION

Manufacturers of — CONSUMER, INDUSTRIAL, PACKAGING AND SCIENTIFIC PRODUCTS

Factories, Laboratories and Sales Offices: Farnumsville, Mass., Orlando, Fla., L'Epiphanie, P.Q.
Showrooms: 225 Fifth Ave., N. Y. C.

Address all communications to: Dept. MP-10



Hour in and hour out . . .

DEPENDABLE BLISS round can flangers produce perfect double end flanges at high speeds

Which of these two flangers best suits your needs?

- *The 1315 Flanger with eight stations flanges cans from 2" to 4-3/16" diameter; from 2" to 8" high.*
- *The 1416 Flanger (illustrated) has four stations, and flanges No. 10 and similar-sized cans.*

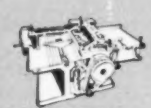
Both models are fast and fully automatic. But, more important, both are engineered to give *long, trouble-free* performance. Flanging slides are closely spaced to allow small diameter turrets (note photograph) which work at high speeds with very little wear. All models are housed in a heavy Meehanite cast base.

To learn more about these dependable Bliss Flangers—and other equipment in the Bliss can making line—write or wire today for Catalog 36-A.

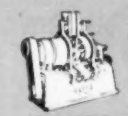
E. W. BLISS COMPANY
50 Church Street
New York 7, New York

BLISS on your machine is more than a name . . . *it's a guarantee*

BLISS CAN AND CONTAINER MAKING MACHINERY


SLITTERS


BODYMAKERS


FLANGERS


SEAMERS


TESTERS


STRIP FEED PRESSES

Package Savings Up To 30%!

You won't find many people more particular about packaging than cracker bakers — so much depends on it.

Flavor and freshness *must* be protected.

Shelf appeal for fast sales is equally important.

Can both be accomplished at lower cost?

YES — *at savings up to 30%* in the cracker industry — by using high gloss KVP Super Kalakote with new KVP high-fidelity color printing. Save from $6.00 to $14.00 per M wrappers!

KVP SUPER Kalakote seals air-tight — preserves crispy goodness. Its pure whiteness is a badge of cleanliness — a perfect background for colorful design and printing. It is made-to-order for today's high speed wrapping machines.

Your packaging problem may be quite different from that of the cracker baker, but if it involves air-tight protection with an overwrap, it should be well worth your while to investigate the possibilities of using low-cost KVP Super Kalakote. Our panel of expert packaging engineers is at your command. Would you like samples and information?

KALAMAZOO VEGETABLE PARCHMENT COMPANY

Parchment, Kalamazoo, Michigan

BRANCH AT DEVON, PA. ASSOCIATED COMPANIES: KVP CO. OF TEXAS, HOUSTON – HARVEY PAPER PRODUCTS CO., STURGIS, MICH. – KVP CO. LTD., ESPANOLA, ONT. – APPLEFORD PAPER PRODUCTS LTD., HAMILTON, ONT.; MONTREAL, QUE.

The World's Model Paper Mill **KVP** FOOD PAPERS — For Protection and Sales Appeal

YOU'LL NEVER KNOW *how simple labeling can be;*

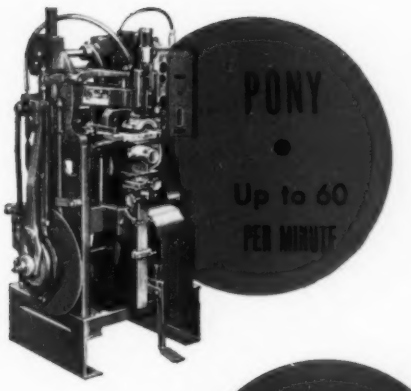
—how much more you can produce,

UNTIL YOU TRY

DRY LABELING

With any one of these machines, keep your hopper full of labels, and *keep your containers coming along the line* . . . then, "from whistle to whistle", IT'S ALL PRODUCTION TIME! No time-out for any of the fussing that goes with glue when you use a

LABEL-*DRI*®



Dry labeling on the CHAMPION and CHALLENGER is PUSH-BUTTON, non-stop, constant-motion, *precision* labeling . . . It's

Labeling *without glue!*

superb performance with round, tapered or flat containers.

533

HERE'S WHAT YOU AVOID!

No glue preparation; no fussing to maintain the proper glue viscosity; no daily clean-up; all of which means elimination of downtime with any of these Label-*DRI*'s . . .

Ask for details!

NEW JERSEY MACHINE *Corporation*

AUTOMATIC LABELING • PACKAGING — PAPER BOX MACHINERY • MAKERS OF THE PONY LABELRITE

FACTORY SALES AND SERVICE BRANCHES
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MAIN OFFICE & FACTORY: 1510 WILLOW AVENUE, HOBOKEN, N. J.

Looking forward by plowing back

Each year American Can Company plows back more into research than any other can manufacturer, *more* into technical service, *more* into field operations, *more into every phase that can benefit you.*

From this plowing back comes a continuous stream of container improvements which American Can Company's customers enjoy before others do.

In the packaging industry most *first* or *original* contributions bear the Canco imprint. Canco's philosophy of always looking forward can be of immeasurable assistance in your business.

These are reasons why it is to your advantage to turn first to Canco—the people who offer you *more* all along the line.

Go first to the people who <u>are</u> first!

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Canco's NEW Non-Drip Container is made entirely of non-critical materials. And note these important selling advantages: *No Breakage . . . Lower Shipping Costs . . . Around-the-Can Lithography* . . . PLUS . . . *No-Drip Feature.*

This container opens up new fields for such products as: cleaners and polishes . . . liquid detergents . . . salad oils . . . primers . . . hair tonics and shampoos . . . syrups . . . liquid starch.

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Collapsible tubes, metal containers, closures to your exact specification—and made with p-r-e-c-i-s-i-o-n

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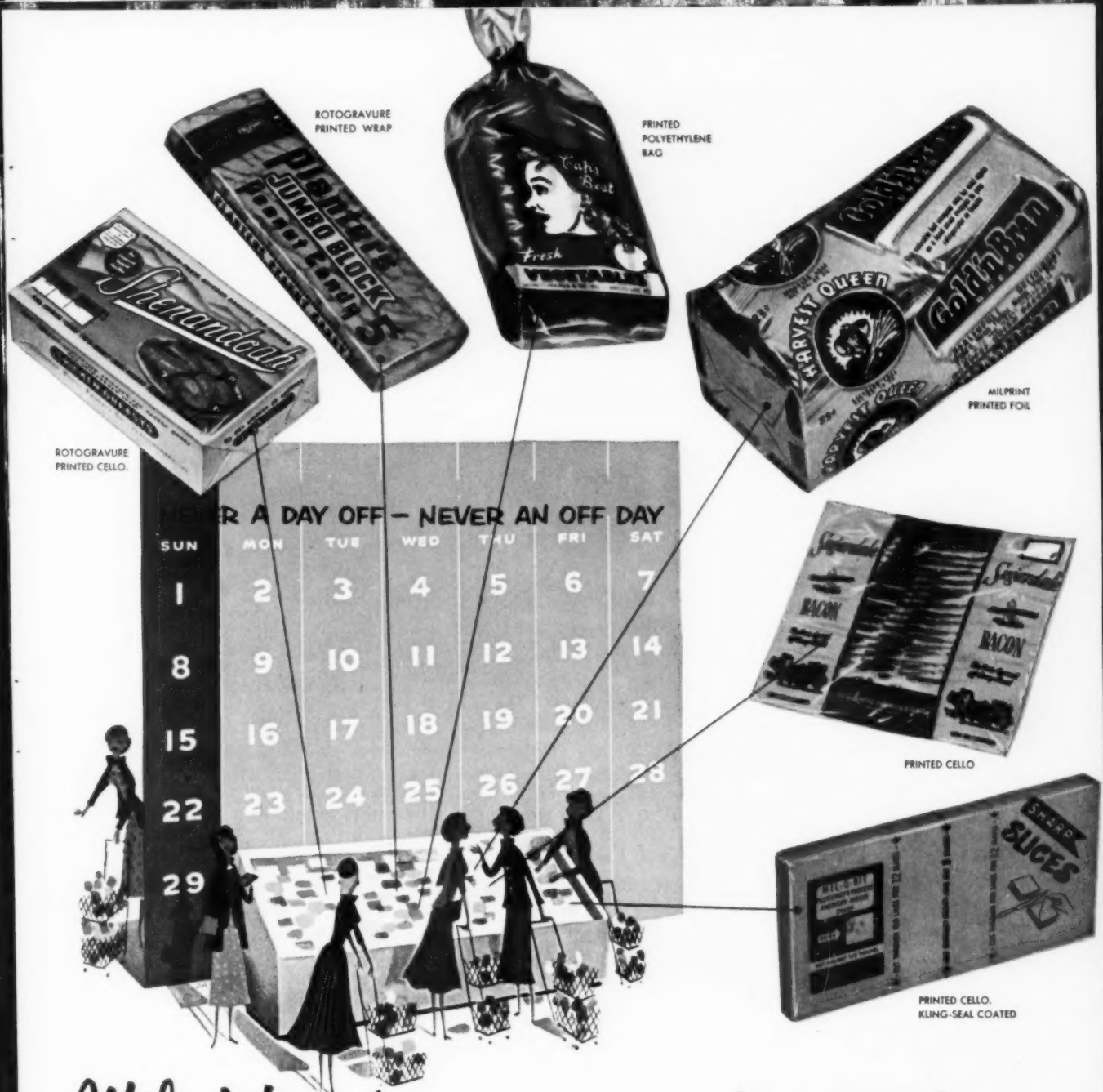

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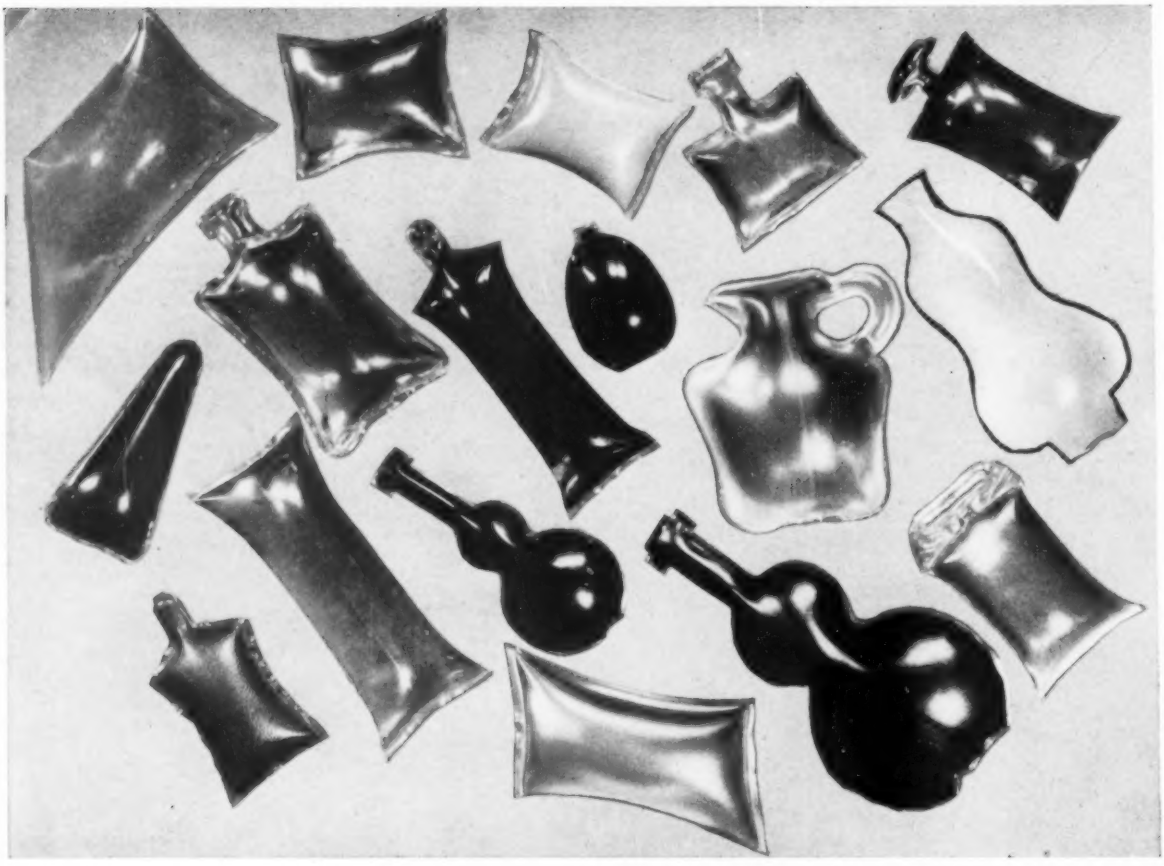

The above illustrates just a few liquid or paste-filled packages and collapsible tubes in different shapes which have been produced by the RADO PROCESS.

We will pack your products in packages of your own design, decorate them with embossing, and print them in up to five colours.

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It's smart to stick with Swift's Adhesives

They serve you and food shoppers, too!

Selling food is big business, since nearly everybody is a food shopper at one time or another. In this great industry, there's profit in a *good-looking package*—a package that speaks of high quality product protection. Swift's specialized adhesives help make that kind of package. No wonder so many leading food processors call on Swift for packaging adhesives.

When you need adhesives, always remember—

- Swift has years of specialized experience in adhesives production.
- Swift works with a broad range of quality raw materials.
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Adhesives for packaging operations:

Swift's Top and Bottom Adhesives: Fast setting, clean machining.

Swift's Tite-Wrap Adhesive: Quick tack — non-warp.

Swift's Case Sealing Adhesives: For both high-speed machines and hand application.

These packages of "Domino Pure Cane Sugar," produced by The American Sugar Refining Co. are sealed with Swift's #1262 Adhesive . . . assuring tight, sift-proof, well constructed packages.

Call **SWIFT** first for **ADHESIVES**

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Please send your 100-lb. introductory trial shipment of:

- ☐ Swift's #1262 Liquid Carton Sealing and Tite-Wrap Adhesive.
- ☐ Swift's Case Sealing Adhesive for Hi-Speed Machines.
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} At the quantity prices

These will be tested for use in our operations. We understand, if not fully satisfactory, they may be returned for credit at your expense.

Name _____ *Title* _____

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Top and Bottom Closing Pays Packaging Dividends at Candyland

with an International Stapler

At the immaculate Candyland plant in Sioux City, Iowa, "women in white" pack a steady flow of gaily colored bags of soft marshmallows. INTERNATIONAL Stapler Conveyor Unit pays packaging dividends—closing 400 cartons per hour, stapling tops and bottoms in one simple operation.

Here is another example of INTERNATIONAL Stapler's packaging versatility. Like thousands of INTERNATIONAL Staplers now serving all types of industry, this unit provides clean, secure closing at high speed—at lower cost—under rigid sanitary conditions.

Says Mr. Nathan Cohen, President of Candyland: "Since its installation, we have never had a packaging bottle neck. The girls in our packing department operate INTERNATIONAL Staplers easily. We feel that our money was wisely invested."

Like all INTERNATIONAL Staplers, this unit occupies minimum floor space and allows complete operator freedom. It's simultaneous top and bottom stapling action, available only in INTERNATIONAL Stapler equipment, offers outstanding time and motion economy.

As Mr. Cohen says: "This INTERNATIONAL Stapler handles our packaging requirements quickly and surely. We recommend this equipment to any manufacturer with similar packaging problems"

You will find 20 models ready and able to cut your packaging costs and build your profits. Investigate INTERNATIONAL Stapler Equipment now. Ask for Bulletin C/201 covering the full line.

Package for profit . . use genuine International Staples for faster, finer closures.

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INTERNATIONAL STAPLERS

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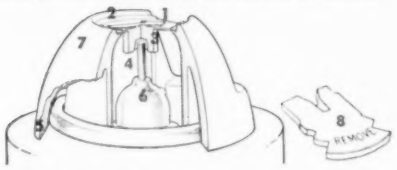
SCHRADER TRIPLE-TESTED VALVES MEAN LOWER REJECTION RATES

Aerosol loaders who have used vast numbers of Schrader Valves have found lower rejection rates, because Schrader Aerosol Valves receive the most thorough inspection. They're triple-tested . . . every critical component part 100% machine tested for correct tolerances. Low rejection rates mean lower costs. And the elimination of 'dud' returns from retailers protects the reputation of your product.

No Aerosol Product is Better than its Valve—No Valve is Better than Schrader's

Schrader produces Aerosol Valves with fully automatic machinery . . . maintaining complete control of production, because nothing but raw materials are bought outside. Schrader even makes its own metal closures.



1. Arrow points clearly to direction of spray
2. Flexible operating portion of Presdome is countersunk
3. Solid button recessed for valve pin
4. Valve pin designed for positive spray shutoff
5. Solid plastic dome grips closure shoulder permanently —no slipping or turning
6. Famous Schrader seating principle is used in the valve
7. Caps available in various colors to match your label . . . by request
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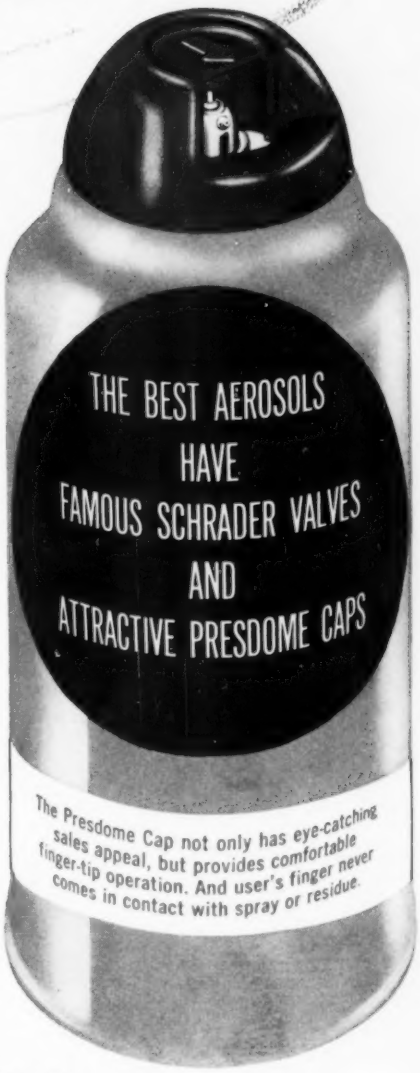

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AEROSOL VALVES made by the manufacturer of the Standard Tire Valve since the first Automobile

Use our research facilities to develop a superior Aerosol package. Send for samples and further information.

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Please send me ☐ Samples ☐ Brochure ☐ Price List

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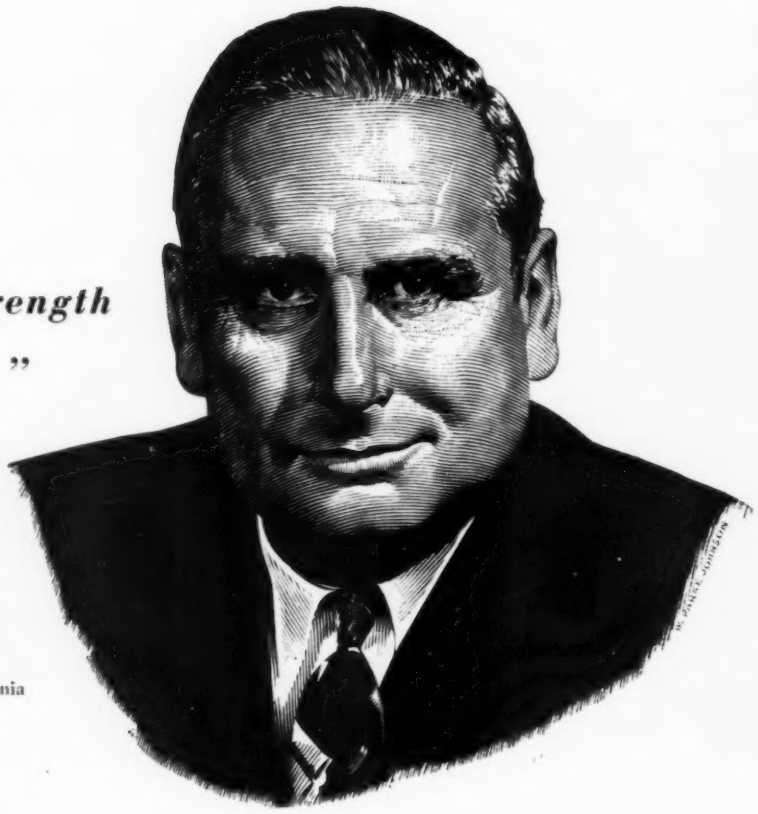
"Our Country's Strength is Created . . . "



REESE H. TAYLOR
President, Union Oil Company of California

"Our country's strength is created by the responsibility and solidarity of individual citizens in a self-chosen government and economy. It can—and must—be perpetuated against all who seek to undermine it. The men and women who invest regularly in United States Defense Bonds are contributing to our national integrity and to the traditions of personal independence so characteristic of a free people."

Every pay day, 6,500,000 employed men and women . . . "are contributing to our national integrity and to the tradition of personal independence . . ." by the systematic purchase of United States Defense Bonds.

How important is this contribution to national economy and personal security? Let's look at a few figures.

- the cumulative purchases of 6,500,000 Payroll Savers add up to $130,000,000 per month.
- the number of individual E Bonds sold in 1951 totaled 68,069,000 pieces—8% more than in 1950.
- purchases of $25 and $50 E Bonds—the denominations popular with Payroll Savers—were greater than the sales of $500 and $1,000 E Bonds.
- monthly redemptions of unmatured E Bonds during each of 9 months (April to December, 1951) were less than 1% of the amounts outstanding.
- the *cash value* of Series E Bonds held by individuals on December 31, 1951, amounted to $34,727,000,000—$4.8 billions more than the cash value of Series E's outstanding in August, 1945.

That Americans have built personal security and a reservoir of purchasing power exceeding $34.7 billions is due in no small measure to the patriotism and foresight of men like Mr. Taylor and other leaders of industry who have made the Payroll Savings Plan available to their employees.

For help with your Payroll Savings Plan, phone, wire or write to Savings Bond Division, U.S. Treasury Department, Suite 700, Washington Building, Washington, D. C.

The U.S. Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the Advertising Council and

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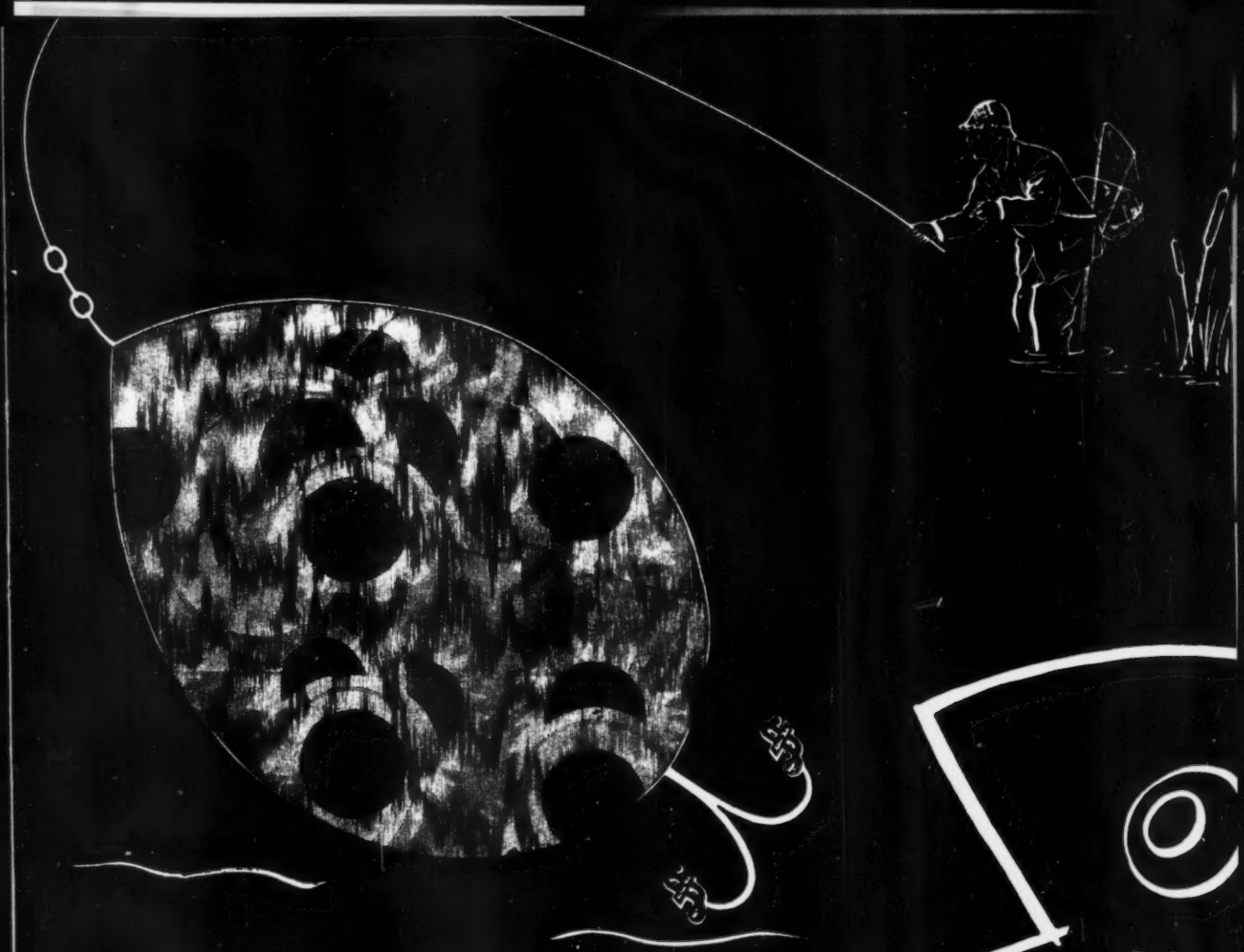


good bait

for sales

fisher's foils

FISHER'S FOILS LIMITED · EXHIBITION GROUNDS · WEMBLEY · MIDDLESEX · ENGLAND

TELEPHONE: WEMBLEY 6011 CABLES: EIOFNIT WEMBLEY (ABC CODE 6TH EDITION)

Angier

Which of these PACKAGING IDEAS will cut *your* costs?

- Six widths.
- Easily dispensed by "cut-off" type machines.

Send coupon with letterhead for facts and

Free samples

INDUSTRIAL PACKAGING PAPERS SINCE 1895

Angier

Stronger Wrap for Big Packs

Angier's new Glass-wrap is reinforced with strong glass fibres to give *better* protection at less cost. Waterproofed; flexible; up to 96" wide. *Check below for FREE sample & facts.*

Vapor-from-Paper STOPS RUST

Saves greasing. Saves degreasing. It's Angier's *proven* vapor rust preventive —VPI® Wrap. Easiest, *sure* way to store or ship your metal products. *Check below for FREE sample & facts.*

Reinforced SNAKE TAPE Speeds Carton Sealing for DE WALT POWER SAWS

Here's a low cost, *sure* way to close heavy cartons. It's so fast, that at DeWalt Inc., it freed one packaging man in every two for work elsewhere. The photo, left, shows how a 245 lb. carton is Snake Tape-sealed along center seams, then, sealed across the edges. These big cartons *stay* sealed enroute. And when opened, there's no extra disposal problem.

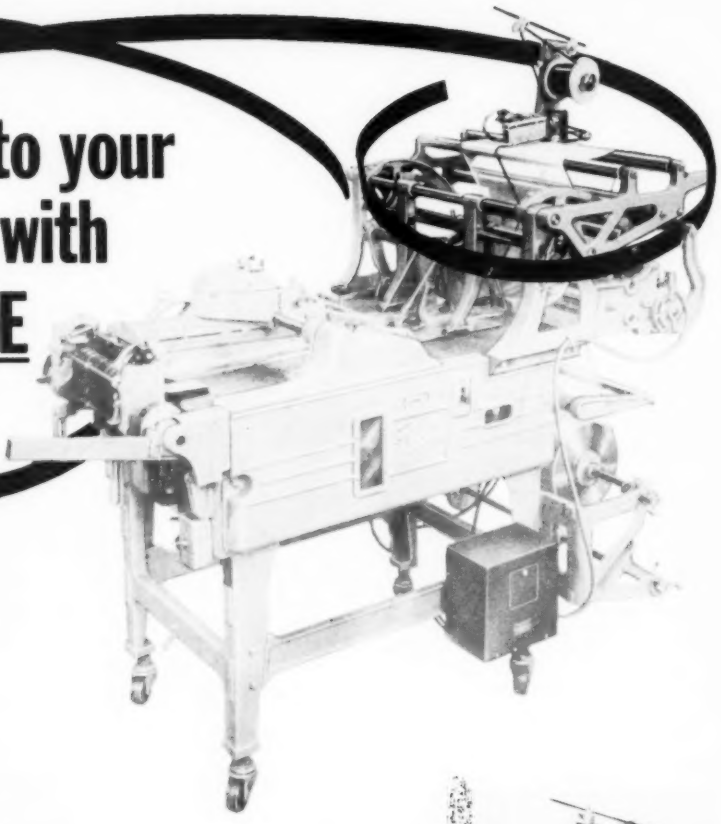
ANGIER CORPORATION
Framingham 11, Massachusetts

I want information and samples of:

- ☐ Angier's glass fibre-reinforced Glass-wrap.
- ☐ Angier's vapor rust preventive VPI Wrap.
- ☐ Angier's reinforced, waterproofed Snake Tape.

NAME .....
(Sign and attach coupon to letterhead)

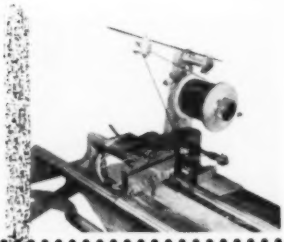
add SELL to your packages with TEAR TAPE opening!



NEW TEAR TAPE ATTACHMENT FOR Simplex CELLOPHANE BAG MAKING MACHINES!

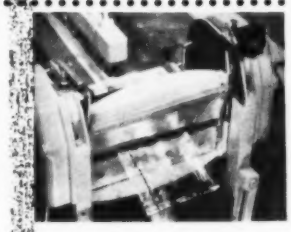
Get the sales advantages of *tear tape opening* for products packaged in prefabricated cellophane bags, with this new attachment for Simplex cellophane bag machines. Other Simplex-engineered attachments for crimping, hole punching or heat-seal labeling adapt Simplex cellophane machines to any need. Whatever *your* requirements – plain or printed stock, single or duplex bags, folded or crimped bottoms, cellophane, Pliofilm, glassines, heat-sealable foils or similar heat sealing materials – look to the *completely versatile* Simplex cellophane bag making machines for top quality, high speed automatic production.

Check with Simplex for your bag and packaging needs . . . *Other Simplex models for polyethylene bags . . . scrim and barrier bags and pouches . . . Simplex-O-Matic for automatic bag making, filling, weighing or measuring, and sealing. Write for details.*



Tear tape attachment can be set up in minutes on any Simplex cellophane bag making machine.

Knives at cutting head "nick" seal for easy opening on crimp or folded bottoms.



Tear tape gives complete lengthwise opening of plain or printed prefabricated cellophane bags.

Simplex

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Polyethylene

FILMS AND SHEETING

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CELANESE POLYETHYLENE, NOW IN VOLUME PRODUCTION IS THE RESULT OF TWELVE MONTHS OF PROGRESSIVE RESEARCH AND FIELD TESTING. DURING ITS DEVELOPMENT STAGE THE SPECIAL NEEDS OF THE PACKAGING INDUSTRY HAVE BEEN THE PARAMOUNT CONSIDERATION.

the Polyethylene you've been waiting for . . .

The new Celanese Polyethylene exhibits improved toughness and evenness of gauge. Its machine handling characteristics, clarity and printing surface make it readily adaptable to all manufacturing and converting operations. Celanese Polyethylene is available in thicknesses from 0.0015″ to 0.500″... lighter gauges in rolls or sheets and heavier gauges in sheets...widths up to 54 inches. Deliveries can be fitted to your requirements.

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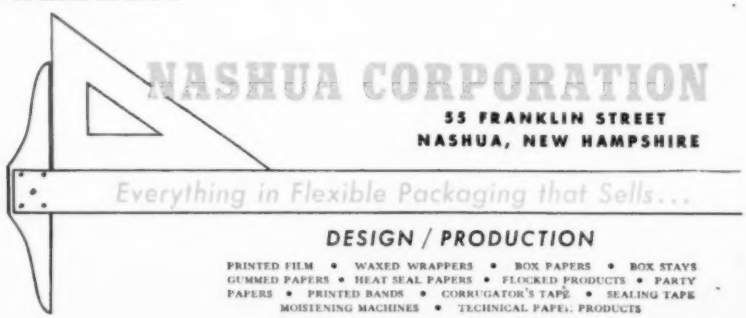
For a wrap to protect your product, to sell it faster, or both — put in a call to Nashua.

We can help you perfect the packaging part of your 1954 sales plans. Whether you package tissues or textiles, food or fine jewelry, Nashua's packaging experts can give your product the packaging lift that boosts sales.

Call or write to Nashua today. It's the best way to start your plans for getting a larger share of sales in 1954.



VOLUME 27
NUMBER 2
OCTOBER 1953

Modern packaging

Better industrial packaging

With improved materials and methods, trends are toward stronger 'sell' and scientific control of shipping hazards

The occasion of the eighth annual national meeting and exposition of industrial packaging engineers (about which details will be found on pp. 148-149 of this issue) is a good time to take a look at what's happening in the field of industrial, military and shipping packaging generally.

A great deal has been happening. And the rise of the industrial packaging engineers to the status of a national professional society with their own national show is to a large degree explanatory. The kind of packaging that seldom, if ever, goes to the retail shelf; the kind that is concerned with transit more than with trade-up, that weighs protection and economy far more heavily than eye appeal, is no longer a back-room problem devoid of management consideration. Industrial packaging in the last 10 years has become an engineering science—a profession worthy of management respect because it represents a long-neglected field of cost cutting and sales building.

Perhaps the recognition of this field owes a great deal to World War II, for protective packaging really came of age under the exigencies of that conflict. It didn't take industry long to conclude that waste and corrosion might lose battles as well as dollars.

Military packaging is still a big factor in this field, both in volume and in influence, but there is distinctly a trend among industrial and shipping packagers of all types to strike out on their own in the directions of less weight, less bulk, lower costs, better product protection and—something that never enters into military packaging—sales appeal.

New materials and containers

New materials—and new ways of using old materials—have opened vast new opportunities for the packaging of industrial parts and products.

For generations, for example, it had been accepted that the only way to ship a metal part was to coat it liberally with heavy grease, wrap it in butcher paper, stick it in a wood crate—and trust to luck that, with a little rust scraped off, it would be usable when it reached the assembly

A NEW MATERIAL for shipping containers being closely watched by both military and industrial packagers is a lamination of wood veneer between two sheets of kraft container board. Scored to fold at a 90-deg. angle, it makes up into exceptionally strong boxes that can be handled just like corrugated board. Steel straps at the edges are optional.

PHOTO, WEYERHAEUSER TIMBER CO.

PHOTO, WEYERHAEUSER TIMBER CO.

RIGIDITY of new kraft-veneer containers is demonstrated. At left, flapped box similar to corrugated; at right, box with wood-cleated ends. These economical boxes, which can be printed like any box, may bridge the gap in current competition between wood and paper.

line. The war taught us dehydrated, or Method II, packaging for corrosion prevention. Now there are new materials—the volatile corrosion inhibitors —that do away with all the expensive trappings of Method II packaging and provide long-term corrosion prevention for ferrous parts in simple paperboard boxes. (See "New Uses for VCI," p. 156, this issue.)

Plastics were luxury materials that had little or nothing to do with shipping packaging until polyethylene came along. Now there are at least 200 instances in which molded polyethylene containers have replaced the much-heavier carboys for shipment of valuable or corrosive chemicals and a combination steel-polyethylene drum is creating a stir—all in the interest of lower freight, greater safety and better product protection. (See "Polyethylene Shippers," p. 133, this issue.)

And speaking of drums, there are few producers of drum-packed products today who are not using or considering the use of disposable film liners of polyethylene, vinyl or other plastic—wherever it is important to keep the product pure, leakproof, free of contamination and easy to handle. (See "New Status of the Film Liner," p. 144, this issue.) Film liners make it possible to ship even liquids in either fibre drums or just ordinary corrugated cartons and, where used with metal drums, they make the drum immediately re-usable without the time or expense of cleaning and reconditioning.

Cellophane, too, was only for consumer packaging until along came the idea of collecting and sealing in cellophane envelopes all of the parts for small metal assemblies—assuring the right parts in the right number for the right job, easily identifiable through the transparent film[1]. Machines have been developed for this kind of unit packaging that will sort and collect, fill and seal a predetermined variety of small parts. Polyethylene and heat-sealable papers also may be used. Even miniature precision bearings now come in a polyethylene-acetate strip package.

Paper has become a far more versatile material for shipping and industrial packaging. Coatings with polyethylene and other resins provide low-cost moisture and water-vapor barriers, whether used as wraps, made up as envelopes or bags or used as huge case liners. Impregnations, as with the VCI chemicals, are used for specific protective jobs. Wet-strength treatment has greatly increased the physical capabilities of all types of paper shipping containers.

There has been a noticeable trend toward the use of flexible corrugated both as hand wraps and as prefabricated bags and envelopes. Lower labor cost, difficulty of obtaining experienced help and better product protection are reasons most frequently advanced for this trend.

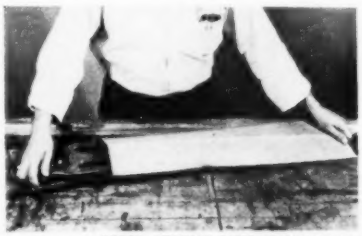
One of the newest developments in papers is the cohesive coating, which sticks firmly to itself when two coated surfaces are brought together but will not stick to anything else. As the sheet forms a package simply by being folded over the product and sealed by a light hand pressure, it has been called "cold sealing." Some of the applications to date are in the furniture trade to protect fine finishes of both wood and chrome; in the fabricated metal-products field (electric hand tools, small signal assemblies and such) and for such miscellaneous products as elevator doors and extruded plastics.

Much has been done recently in strenghtening papers used in shipping packaging by the incorporation or lamination of reinforcing fibres—glass, rayon, etc., either multi-dispersed for strength in all directions or laid parallel for one-way strength. An asphalt-laminated, creped-kraft construction with dispersed fibres is now widely used as a waterproof paper for

SELF-SEALING PAPER, with a cohesive surface that sticks only to itself, cuts minutes from wrapping time for electric drills and other industrial products.

PHOTO, SHERMAN PAPER PRODUCTS CORP.

PREFABRICATED FORMS of flexible corrugated material are increasingly popular. Here a sleeve contains a bicycle luggage rack; a staple is used for the closure.



PHOTO, SHERMAN PAPER PRODUCTS CORP.

RE-USE IS THE IDEA for this wirebound crate. It is first used to carry the outer housing of an attic fan to Hunter from a supplier; is then used again to carry the completed attic fan to market.

[1] See "Unit Packaged for the Assembly Line," MODERN PACKAGING, June, 1953, p. 126.

case liners and weatherproof covers. A gummed tape with an asphalt bond for waterproofing has fibres laid parallel lengthwise to provide great tear resistance; two strips to seal carton flaps are said to be the equal of the customary six strips of ordinary gummed tape.

Perhaps the most obvious trend of all in shipping containers is the swing toward corrugated boxes for many kinds of jobs which previously were considered beyond their capability. This is particularly noticeable in the Western produce industry (see "The Trend to Fibre for Produce," p. 138 this issue), where an estimated 90% of the lemon shipment and nearly half of the lettuce crop, as well as other fruits and vegetables, have switched from wood to fibreboard containers for lighter weight and easier handling. New ways of handling produce, permitting sealed containers rather than crates, are responsible for this booming trend.

In a completely different direction, corrugated and solid fibre containers are cutting into wood also in the movement of industrial products formerly considered too heavy for anything other than a wood box or crate. Special heavy-duty construction, providing up to six thicknesses of board, gives the necessary rigidity and strength. (See "Heavy Loads in Corrugated," p. 125, this issue.) In practically all cases where fibreboard is replacing wood, the opportunity for printing the containers to promote name and trademark is mentioned as a factor, showing growing cognizance of the "sell" aspects among industrial and shipping packagers.

The glue-lap manufacturer's joint for corrugated containers seems to be finding a place for itself, particularly where excessively moist conditions are apt to be encountered. (See "Glue-Lap Acceptance Gains," p. 128, this issue.) Basically, the glue-lap container should be the most economical to manufacture. And in moist atmospheres it reportedly holds up at least as well as the more costly taped joint and better than the stitched joint. It is free, on the inside, of any protrusions that might possibly snag wraps or labels. Thus, a third basic type of corrugated container appears to have arrived.

Strong in convenience appeal to retailers is the new tear-tape corrugated box being used by General Mills and other producers of supermarket products.[2] A strip of plastic or fibre tape is incorporated in the side wall of the box, usually near the base, so that the box can be cut in two just by pulling the tape. It means easier price marking, easier mass-display arrangement and re-use of the box halves for carry-outs. It is still too new to tell much about costs.

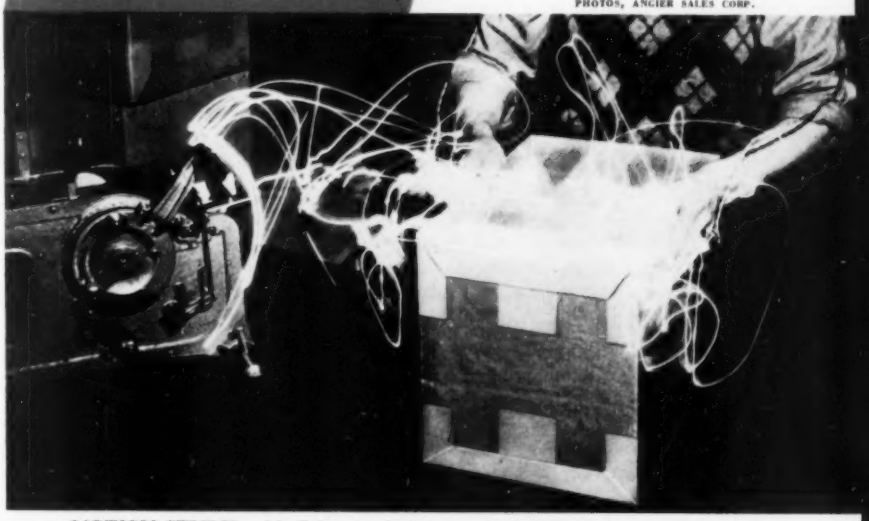
In the competitive battle between wood and fibreboard in the shipping-container field, much attention is currently being given to a newly perfected container board that combines the two materials, apparently with the best features of both and the weaknesses of neither. This is the veneer-kraft lamination, developed by various timber interests, which, typically, is made with a mechanically distended inner core of Douglas fir veneer, usually about ⅛ in. in thickness, faced with either 42-lb. or 90-lb. kraft container board on both sides. This makes a semi-rigid material which, in box form, is said to have greater corner-wise compression strength than comparable wood or wirebound boxes. The material can be machine processed into various types of boxes, including the various flapped designs familiar in corrugated. It can be given wood-cleated end panels for great stacking strength. In all cases it is folded and stacked flat for shipment and storage.

In construction of one of these veneer-kraft materials, the grains of the veneer and the layers of kraft board are crossed, providing maximum stiffness; yet folding is made possible by routing the veneer core during fabrication wherever folds are desired. The material then may be

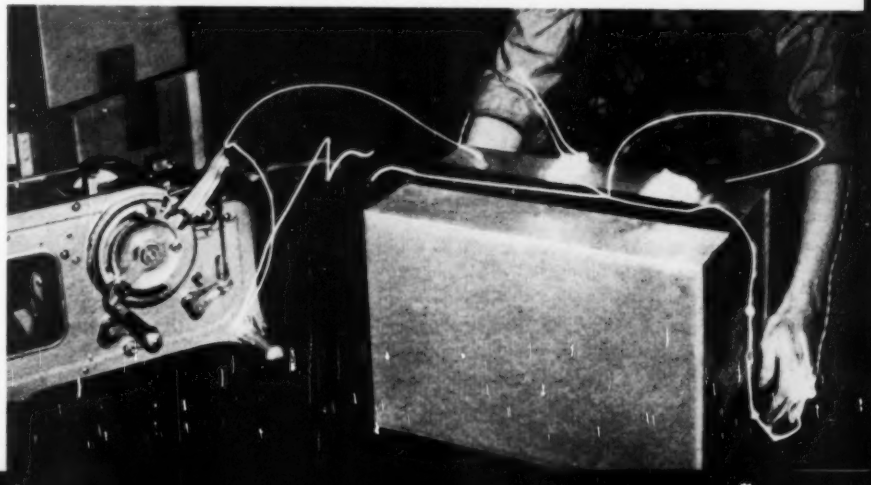
[2] See "Tear-Tape Shipper," MODERN PACKAGING, March, 1953, p. 83.

Speedier sealing

PHOTOS, ANGIER SALES CORP.



MOTION STUDY, with light attached to worker's left hand, compares tape sealing of carton. With ordinary tape (above) six strips are required and sealing time is 38.5 seconds. With the new fibre-reinforced tape (below) only two strips of tape are needed and sealing time is 11 seconds flat.



PHOTO, REYNOLDS METALS CO.

MORE SELL, MORE PROTECTION is now available to industrial-parts packagers with plentiful supply of embossed aluminum foil, used here by G. M. Truck & Coach as corrosion-preventive wrap for truck parts.

bent to angles of 90 deg. or more without weakening, it is claimed. Corners are dust-tight because the kraft layers are continuous. The new material can also be formed into drums.

The veneer-kraft box to a large degree retains the stiffness and resistance to crushing of wood; yet it offers the light weight, foldability and smoothness of the fibreboard carton. It provides a highly printable surface. If costs are in line, it would appear to have a big future for produce, industrial products, appliances, meats and cold-storage foods.

Among the straight wood containers, the wirebound crate—which also has the advantage of knock-down construction and quick assembly—is certainly holding its own. With the benefit of sound engineering for specific applications, it is the container of choice for many military and industrial applications. (See "Engineering a Wirebound Crate," p. 168, this issue.)

PHOTO, GOODRICH CHEMICAL CO.

NON-WOVEN TEXTILE, made of cotton fibres saturated with vinyl latex, provides a better, vapor-porous bag for desiccants used in Method II packaging.

For the first time in 12 years—since the present era of protective packaging began—metal is once more freely available to the industrial and military packaging engineers. This has led to much wider use of hermetically sealed metal cans and drums for corrosion-proof, long-term packaging of metal parts and assemblies, ranging from ball bearings to aircraft engines. (See "Rigid Barriers for the Military," p. 163, this issue.) Metal-end fibre cans with a foil ply in the side wall also have gained considerable use as military barriers. The Air Force is using metal drums and cans to package parachutes[3] and for long-term storage of clothing items.

As far as water-vapor barriers are concerned, for metal parts, the flexible barrier materials—improved with the addition of polyethylene to the lamination—certainly have their adherents, and there has been a revival of interest lately in plastic strip coating, involving either a new and improved butyrate material or the older ethylcellulose.

Industrial and shipping packagers are reveling in the luxury of an adequate supply, for the first time, of aluminum foil. Foil-laminated fibre drums have made their appearance on the West Coast, being used as single-trip containers for oils and greases.[4]

[3] See "Canned Parachutes," MODERN PACKAGING, July, 1953, p. 120.
[4] See "Successful Foil-Kraft Drums," MODERN PACKAGING, Jan., 1952, p. 105.

Sheets of foil, printed or embossed in some cases, have been rather widely used as insulating case liners for lettuce, field packed either in crates or in cartons later subjected to vacuum cooling.[5] For domestic shipments of metal parts, a wrap of dead-folding aluminum foil, frequently trademarked by embossing, is all that is needed for greaseproofing and corrosion protection; it is so used for replacement parts by the General Motors Truck & Coach Division.

Developments in metal drums include a new lighter gauge, designed to be used with a plastic-film liner and, for the first time, four-color all-over lithography, which is producing for companies such as Rohm & Haas some of the most beautiful containers ever seen in the bulk-packaging field.

In line with the new scientific approach to shipping packaging, there has been great interest in adequate cushioning materials. The packager now has a wide choice of cushioning: rubberized animal hair, sponge rubber, foamed plastics, rubberized fibre, fibre glass, cotton fibres, as well as such standbys as cellulose wadding, excelsior and shredded papers. Most of these products are available as contoured shapes, or in the form of pads and blankets. The old method of nesting a fragile product in a great mass of loose cushioning material seems comparatively costly and on the way out. (See "Economical Cushioning," p. 152, this issue.)

New methods

Any discussion of improved methods of shipping packaging would have to start with mention of the outstanding job done in the porcelain-enamel-products industry by its Safe Transit Committee. With the adoption of standards for pre-shipment testing of each package, involving a sequence of drum, impact-incline and drop tests, damage losses in this industry have been dramatically reduced. A full report on this development appears in this issue. (See "Pre-Shipment Testing," p. 118.) Now the practice is spreading to other industries.

Palletizing of packaged goods has become so widely known and practiced as to require no discussion; the new word in this field is "unitizing." This usually involves products which do not require individual sealed pack-

[5] See "Foil Liner for Lettuce," MODERN PACKAGING, Dec., 1952, p. 130.

ages and the principle of unitizing is simply to assemble the products on a pallet with only rudimentary packaging, such as corrugated dividers and covers, with the whole load bound together, or unitized, with metal strapping. It is now widely used, for example, in the shipment of sub-assemblies from one plant to another. Frequently the pallet itself may be of corrugated-board construction. The saving is obvious.

Steel strapping has competition now from reinforced fibre bands and tapes. But steel strapping and the means of applying it are being constantly improved. One supplier offers steel strapping covered with flock, to prevent scratching of highly finished surfaces. Another new development is so-called "seal-less" strapping, with a machine that tensions the strapping, cuts it to length and effects a mechanical interlocking of the two ends without a protruding seal.

A new method being closely watched is the use of pre-formed packing material, or "cradles," consisting of laminated layers of industrial fibreboard chemically treated to cushion the inside of a shipping container while keeping the outside rigid. Die cut to fit contours of such items as aircraft-engine crankcases and cylinders, the material is treated to give negative pH factor, discouraging corrosion. Sometimes this kind of packing is used inside a corrugated container; in other cases it may be held together simply by wooden base and headboards and steel strapping. Wright Aeronautical Corp. is now said to be shipping more than 50 engine parts with this type of packing and, in 100,000 shipments involving products worth around $10 million, is reported to have had not a single instance of damage.

Containers for bulk shipping are getting bigger and bigger, to the extent that they sometimes almost cease to be packages. Re-usable steel containers as big as half a boxcar can be loaded with any kind of merchandise and derricked aboard a ship or flat car. More directly in the packaging line is a re-usable corrugated container big enough to hold a ton of flour for movement from the mills to bakeries. The equivalent of 20 conventional bags of flour, it has increased production at Fisher Flouring Mills Co., Seattle, by 33% and at the bakery end substantial labor savings in handling are reported. The corrugated "boxes" are reinforced with wood exterior ribs and bases and steel strapping, and can be collapsed for shipment of empties for re-use.

There is an increasing tendency toward pre-engineering of corrugated industrial packs to fit the product as a part of original product planning, rather than saying to the box supplier: "Here is the product; give us the right kind of package for it." An example recently reported[6] is that of the Calnevar Co., Los Angeles, which by pre-planning both inner and outer packaging of its sets of wire-wheel hub caps to fit both its own and distributors' requirements saved thousands of dollars, cut damage to nil and greatly strengthened distributor-jobber-dealer relations.

There is certainly a much greater awareness in the last few years of appearance factors in shipping packages. Examination of any mixed warehouse today will show few corrugated shippers lacking a printed trademark and some "sell" copy, and many use two and three colors and sometimes a solid-color background. Printing on corrugated has made great strides. Pictorial effects approaching the detail of halftones[7] are now possible. New and improved methods of uniform surface coloring of corrugated board during manufacture have been worked out; this is said to give a better, more uniform colored surface for subsequent printing.

A possible new trend in shipping-package engineering is the use of instruments that ride inside a package through shipment to record the degrees and kinds of shock and the percentages of humidity encountered. Pillsbury Mills, for example, pre-test their containers by using an impact recorder inside a dummy container which is the approximate size and weight of the actual proposed container. A new humidity detector, used in Method II military packages, gives a continuous report as to whether the desiccant is properly controlling the relative humidity inside the package; it is said to have practically eliminated the cost of periodic inspection of Method II packages in storage.

Opportunities for the use of automatic machinery in shipping packaging are limited, but several new developments are worth noting. There is now an automatic case sealer, to seal flaps of corrugated cartons, big enough to handle major appliances such as washing machines and refrigerators. Automatic machinery for in-plant production of corrugated cartons to a wide range of specified sizes, to fit odd-sized shipments with a minimum of waste, is now reported in use in more than 100 plants. With a new semi-automatic seam setter, for the application of tape to the manufacturer's seam, this provides a complete in-plant box department.

Automatic pouch and bag-making machines especially designed for industrial packaging plants feature new control equipment to assure a foolproof product.

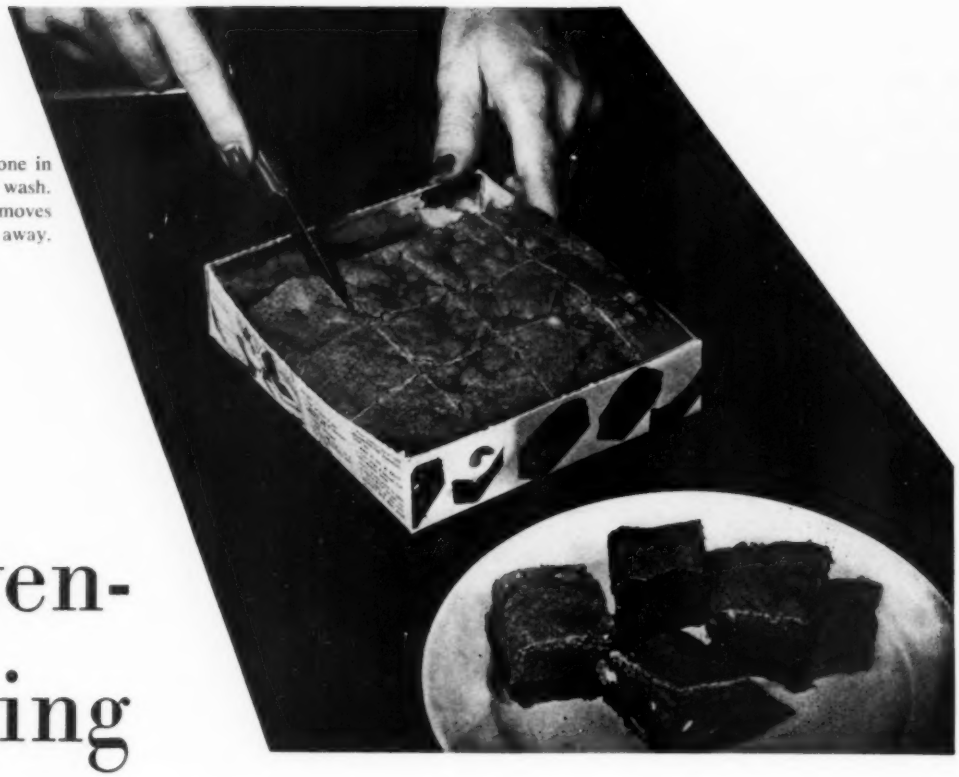
Military packaging

In the present state of the world, military packaging promises to be *(This article continued on page 244)*

[6] See "Pre-Engineered Shipping Package," MODERN PACKAGING, Aug., 1953, p. 107.
[7] See "Pictorial Printing on Corrugated," MODERN PACKAGING, Aug., 1953, p. 98.

PHOTO, SCHMIDT LITHOGRAPH CO.

COLOR COATING during manufacture of the board provides a new opportunity for quality color work on corrugated containers. It makes possible uniform background colors as brilliant as any found on consumer packages.



BROWNIE BATCH is done in 25 minutes with no pan to wash. Housewife merely removes brownies and throws pan away.

Oven-baking cartons

Foil-lined display package becomes baking pan for brownie and macaroon mixes now hitting the market

Latest evidences of the trend toward functional packages for food products are laminated aluminum-foil-lined folding cartons that can be put right in the oven for use as the baking pan.

The new package, called "Pan Pakt Box," is used for two Holiday brand mixes marketed by Food Specialties, Inc., Perth Amboy, N.J. It is believed to be the first of its kind.

To make 16 brownies the housewife simply lifts a side-opening flap, tears off the top side of the carton along perforated edges, dumps the contents of an enclosed glassine bag into a bowl for mixing with egg and water as the recipe calls for, puts the mix in the foil-lined carton and places the carton in the oven. In 25 minutes she has a batch of chocolate brownies complete with cashew nuts—and no pan to wash. She throws the box away.

The macaroon-mix carton is of similar construction and differs only in the matter of product and recipe information, calling attention to the ease with which almond macaroons may now be made at home—a task housewives formerly ducked because of the difficulty and time involved in preparing ingredients.

The new Pan Pakt package was developed after extensive research in the company's laboratories. In addition to their impressive functional qualities, the packages have excellent display value. Holiday brownie and macaroon mixes had previously been on the market, but were sold in metal cans. While the cans were excellent protective containers, they did not afford the proper shelf display to attract shopper attention and were not package forms which consumers or dealers readily associated with ready mixes.

Says John Godston, president of Food Specialties, Inc.: "Store keepers don't run hide-and-seek grocery stores any more; they run show places with premium attractions. We realized that we would have to repackage our products to get more attention. And with the limited point-of-purchase space available in stores today for counter cards and posters, it was essential that our package itself be the entire display, including plus-value premium and talking sign."

Company research indicated that most average home kitchens are not equipped with an 8-by-8-in. brownie baking tin. If a homemaker wished to make brownies, she either had to go out and buy a special pan or, as was most often the case, use some other kind of pan too big in area to give the right thickness to the brownies or of a material that required too much time to heat up,

COMPLETE DISPLAY is offered by the packages themselves, including the oven-baking feature of the "Pan Pakt Box." Carton made of white patent-coated board combined with aluminum foil laminated with special adhesive will withstand required slow heat (350 deg. F.) without smoking or burning.

with the result that the brownies often turned out to be too dry.

The first decision was to adopt a carton package that would provide the desirable display area and that could be designed with full-color illustrations to give the appetite appeal necessary for today's food packages. Consideration was given to the possibility of offering an 8-by-8-in. brownie tin as a premium with the product.

Then one day while the company was interviewing carton salesmen, one supplier helped evolve the idea of a foil-lined carton that could serve as the pan. Here was a display package and a pan all in one.

At that point the salesman didn't know whether it could be made, but he asked for a few days to contact the technical staff of his company. Within a week he was back with the word, "We can do it."

In a little over a month the package was perfected. The carton measures 5 5/16 by 6 by 1¼ in.—a size suitable for a quantity of mix in the package to make 16 brownies cut in average-size squares. The same package could be adapted to the macaroon mix.

The carton is made of special white patent-coated board combined with aluminum foil laminated with a special adhesive. It is letterpress printed on the outside in full color with special inks. Die cutting, scoring and perforation are designed so that the box pulls open by means of the spot-glued flap on one side and the top tears off neatly, leaving a square foil-lined tray for baking. Corner flaps are glued, cut and scored for easy removal of the top.

The box was adopted after a series of tests by Food Specialties and the carton supplier established that it would withstand the required slow heat (350 deg. F.) as stated on the package without smoking or burning. According to the carton supplier, there was no special difficulty encountered in achieving this performance, as the aluminum foil disperses the heat evenly.

The mix for both products is contained in a 47-lb. laminated glassine gusseted bag, heat sealed by means of thermoplastic application which starts at the inside top lip of the bag and extends all around the inside to a depth of ¾ in. The opening of the bag is heat sealed and folded over twice, which not only gives good moisture protection, but prevents sifting when the bags are being placed in the cartons.

The bags are filled and sealed by machine, ready for insertion by hand into the cartons, which are delivered flat with side-opening flap already spot sealed. The cartons are set up just before they are filled. The cartons are closed by sealing of the ends. Twelve cartons are packed in corrugated paper cases for shipment.

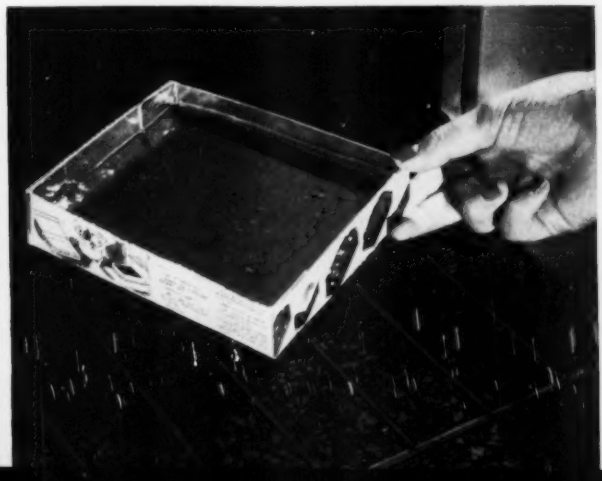
In addition to the cooking convenience the new package offers, it is a doubly protective package against moisture and infestation, due to the foil liner.

The wide front and back panels provide the essential display areas. Dominating the face of the package, of course, is a realistic color photograph. Other elements of the design include all information a user would want about the product. Immediately seen, for example, are the words "Brownie Mix" and "Holiday Brand"—a name that is being popularized by the company's trade character, Carol Holiday.

The shopper is told quickly that

LAMINATED GLASSINE bag inside carton gives moisture protection to mix, prevents sifting.

READY FOR OVEN as soon as contents of bag are mixed with egg and water, and placed in carton after top flap is removed.



here is a "new work and money saver" because she can bake the brownies in the "Pan Pakt Box." She sees, too, that all she has to do is add egg and water. Mandatory information concerning ingredients and the name of maker are also printed there prominently.

The other side of the package is a talking-sign poster that features "Super value" on an arrow pointing to a sunburst price patch which states "makes 16 brownies for only—." The blank space is left for the store to mark its own selling price. For retailers who specify a special price for special offers, the company will preprint the figure. More detail is printed on the poster panel concerning the new Pan Pakt box, "a newly developed aluminum baking pan," which "assures best baking results, does not smoke or burn during baking, eliminates washing and may be discarded after use."

The recipe is given on one side panel illustrated by a line drawing showing the preparation. Copy on the side flap tells how to open the package. One end panel carries more promotional copy and a drawing of the open box to show how the bag is packed inside. The other end has more color illustrations of baked products, showing various ways to ice and decorate them. The entire packaging job shows evidence of planning by an experienced hand in the food business.

Preliminary market research indicates that the packages will be stacked upright on the shelves, one in front of the other, thereby providing a large, colorful, appetite-appeal display. The producers of Holiday Brownies and Macaroon Mixes also believe that display stacks of the packages may be placed in strategic island and end locations, particularly during the introductory period, where in themselves they will do the same kind of selling job that special separate point-of-sale material might be expected to do.

CREDITS: *Laminated, foil-lined carton developed and produced by Robert Gair Co., Inc. 155 E. 44 St., New York 17. Glassine bag, Union Bag & Paper Corp., 233 Broadway, New York 7.*

Beef pie in a can that's the baking pan

Another current example of a package that serves as the baking utensil is a beef pot pie canned in its own pie pan developed by Trenton Foods, Inc., Kansas City, Mo., and now being distributed through major chains as well as leading independent outlets in the Midwest.

The product, marketed after three years of research and testing, is reported to be attractive to store managers since it requires no refrigeration and therefore takes up no refrigerated display facilities. The no-refrigeration feature apparently is also attractive to the homemaker because the pies can be stored anywhere indefinitely.

Trenton Foods specializes in canned meat products, packing private brands as well as millions of pounds a year for the Armed Forces. Three years ago, Harold Melcher, president, and Jack Miller, vice president, set out to develop a new type of canned meat item that would not only save the housewife money, time and effort, but would have home-made flavor and quality.

After perfecting a crust-enclosed pie, they found they had to develop a new type of container for the product. The result is the oven-baking can (patents pending) for their Dinner Time Beef Pot Pie. The pan may also be re-used by the housewife as a kitchen utensil.

The pie is planned to serve three nicely, contains lean beef chunks, carrots, peas, potatoes and a small amount of gravy.

The consumer simply removes the top of the can with an automatic can opener, slips the pie in its own pan in the oven and serves it to the family in the pan.

The container, lithographed in six colors to resemble a flaky baked pie crust, is comprised of a one-piece drawn metal base and reamed-on cover. The lithographed cover has an illustration of a cutaway section revealing a bright picture of a portion of the pie, showing the shopper just what's in it.

Laboratory and kitchen tests by the supermarket chains and food foundations have given the beef pot pie a high rating, and press and radio food commentators have been generous in their comments on the quality and taste appeal of the contents.

REMOVE TOP with automatic can opener and beef pie, complete with crust, is ready for the oven in its own pan. Package serves three.

MASS DISPLAY indicates the kind of attention this new time-saving food specialty is receiving in self-service markets.

CREDIT: *Cans produced by Continental Can Co., Inc., 100 E. 42 St., New York 17, under patents pending to Harold Melcher and Jack Miller of Trenton Foods.*

Low-cost couponing

New attachment on unit-packaging machine applies coupons while forming the pouches

House-to-house sampling with a coupon offer is life blood to the powdered-soap and detergent industry. And when these sampling programs run anywhere from 10,000,000 to 100,000,000 a year, as they frequently do, a fraction of a cent cut from packaging costs can mean savings in five and six figures.

For many sampling programs the automatically heat-sealed pouch* has become a most convenient package form, but one of the previous obstacles to its use has been the need for an economical and efficient method of attaching the coupon to the package.

The problem appears to have been solved by an ingenious new method of attaching the coupon that has been adopted for Colgate-Palmolive-Peet Co.'s Vel samples. It involves the development of a new attachment for certain standard types of unit-packaging machines that automatically registers and heat seals a separate coupon to the package at the same time the pouch is being sealed and cut.

This development may represent the end of a long search for an attached coupon in physical form that is convenient to handle. It provides a coupon securely attached to the package so that it can't get lost. For the dealer, it means a coupon of uniform size that is easy to count and to keep in the cash register. And being printed separately from the envelope, it permits quick change of the coupon offer to meet the rapid competitive changes in couponing often necessary in the soap and detergent industry.

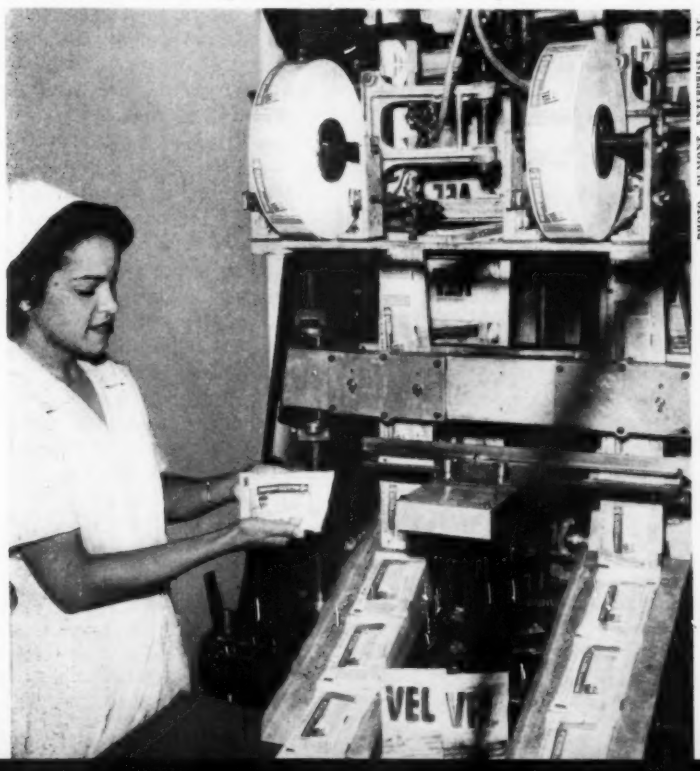
The Vel packages are turned out two at a time from two parallel webs of material. The coupon attachment, for which patents are pending, consists of a mounting placed directly above the draw bar of the unit-packaging machine. The mounting supports two reels of preprinted coupons in roll form so arranged by means of guide rollers and a tension roller that the coupon material is fed, two up, parallel to the pouch-forming material in the machine and is heat sealed to the pouches at their two ends at the same time that the sealing bars seal the pouch ends.

The coupon rides on the package like a handle—sealed at the two ends and open in the middle. It is a simple matter to remove the coupon by tearing it off at the two sealed ends.

The coupons are made of the same polyethylene-coated paper as the pouches—25-lb. basis weight super calendered white sulphite pouch paper plasticized for flexibility and printed with gloss inks.

The coupon attachment does not reduce the speed of the unit-packaging machine, which in this case is about 60 per minute.

EASY-TO-TEAR OFF, new coupon is a uniform piece, easy to count and keep in cash register. Coupon is securely attached at both ends of pouch by the same seal and crimp that forms the ends of the pouch itself.

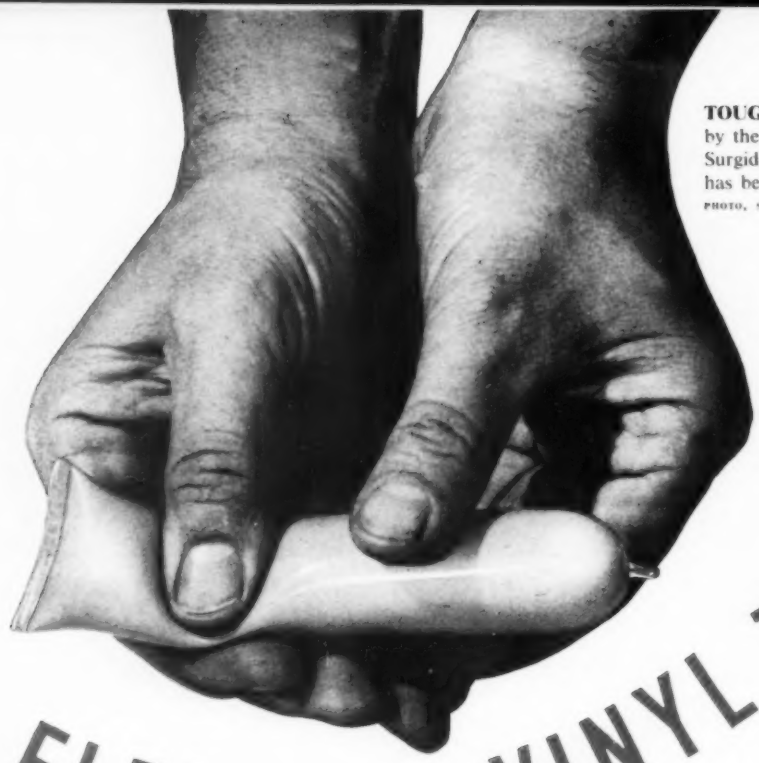


PHOTO, DUMONT ENTERPRISES, INC.

ATTACHMENT supports two reels of coupon stock which travel in same direction as pouch-forming stock. Coupons are heat sealed to pouches at the same time that the sealing bars seal, crimp and cut the pouches.

CREDITS: *Development of coupon attachment device and production of coupon-attached Vel packages, Dumont Enterprizes, Inc., 183 William St., Englewood, N. J. Unit-packaging machine, Transparent Wrap Machine Corp., Route 17 and Henry St., Hasbrouck Heights, N. J. Coupons and pouch paper, Riegel Paper Corp., 260 Madison Ave., New York.*

* See "Upswing in Unit Packaging," MODERN PACKAGING, Sept., 1953, p. 89.



TOUGHNESS of new vinyl tube is demonstrated by the necessary kneading in dentist's hands after Surgident dental impression material it contains has been softened in boiling water.
PHOTO, SURGIDENT, LTD.

FLEXIBLE VINYL TUBE

Its strength and elasticity are winning it a place as a single-use container for hard-to-contain products

A new kind of flexible tube—a seamless construction of rubbery vinyl plastic—has found a ready acceptance on the West Coast, where it is now being used by at least three companies for products as diverse as oil colors for paint mixing, vegetable-coloring materials for children's Easter egg and play sets, and a dental impression material.

While it lacks the roll-up characteristics of the metal collapsible tube, the vinyl tube has, according to these users, demonstrated certain advantages. It is light (about one-third the weight of a lead tube), strong (said to withstand the weight of a 200-lb. man without rupturing) and economical in cost—about the same as tin, lead or aluminum. Its range of sizes is practically unlimited.

Because of its strength, the new tube needs no carton or sleeve for protection in shipping. It is liquid tight, with the danger of springing a leak said to be nil. The plastic composition can be varied to meet special requirements for chemical, oil and grease resistance. The tube can be boiled—in fact, will withstand temperature up to 250 deg. F. before softening—and hence is sterilizable. It can be made transparent or opaque, in any color.

Supplied pre-formed, the tube is handled on conventional tube-filling machinery and its open bottom end heat sealed by special electronic equipment which replaces the usual metal-tube crimp sealer. This can be a rapid, straight-line operation. The tube can be printed in more than one color, but the printing has not yet been completely tested in use.

The tubes are manufactured by a dipping process, for which patents are said to be pending. In current uses, the tube has no closure, but is simply formed to a small "nipple" at the round end and is opened by cutting at this point with scissors.

Where a replaceable closure is desired, the tube can be formed onto a threaded finish of molded polyethylene. Such tubes are shipped with a molded plastic threaded closure already in place and, in the dipping process, receive a continuous thin coating of the vinyl plastic which covers the closure and seals the entire assembly. A shoulder is provided to seat the closure at the base and the cap has a center plug seating in the narrow orifice of the tube. Thus essentially the same leakproof qualities are provided as in one-piece tubes.

All of these special processes are covered by patents pending.

No one expects that the vinyl tube will, to any great extent, displace the metal collapsible tube. Rather, it seems to be creating a new field of special uses, where no other type of container will quite fill the bill. Most of the applications of the vinyl tube so far are where all of the product is dispensed and used at one time.

For paint colors

A particularly rugged test of the new tube has been made by the Cali-

PAINT-MIX COLORS by California Ink Co. use tubes and cartons like these. User generally is instructed to cut off nipple end with knife or scissors and squeeze out contents.

ON TUBE FILLER, an electronic sealing mechanism replaces the conventional crimp sealer. The welded bottom is said to be equally as strong as the one-piece vinyl tube itself.

fornia Ink Co., Inc., San Francisco. For some 80 different private-label customers in the paint industry, California Ink supplies oil- and water-based pigments which are packaged and sold separately from base paints, in line with the new trend toward "mix-it-yourself" paint color systems.

With such a product, the penalty for package failure is high. A single leaky tube might ruin the contents of an entire shipping carton—not to mention anything else with which the leaking pigment might come in contact. Metal collapsible tubes, long the standard package for paint colors because of their easy and positive dispensing action, have been known to leak.

California Ink Co. now uses the vinyl tube for all of its various-branded paint colors, citing as its reasons: sturdiness, non-puncturing characteristics, lighter shipping weight, absence of denting to mar appearance and ease of emptying. On the latter point, it is easier with the completely flexible tube, the company says, to be sure that every bit of the contents is emptied—which is important in producing the exact, specified shade of paint.

At the Berkeley plant of California Ink Co. three smoothly operating packaging lines have been set up. Tubes are filled on a conventional semi-automatic tube filler designed for metal tubes. Instead of the usual crimping mechanism for sealing the bottom end, however, there is a high-frequency generator and sealing jaws through which the operator passes the open end of the tube. High-frequency heat does not merely seal the surfaces together; it actually welds the plastic, insuring a leakproof seam. The heat-sealing mechanism can be attached to the filler in a matter of a few hours. A single operator handles both the filling and the sealing. The sealing jaws can be used to apply an embossed code number on the tube.

California Ink uses plain tubes with a flat end and achieves brand and color identity by cartoning each tube in a printed, lock-tab-style, tuck-top folding carton. In some cases a pressure-sensitive sticker is applied to the tube to identify the color; this can

RANGE OF SIZES and finishes is suggested by the group of tubes illustrated below, which includes various opaque colors as well as semi-transparent. The tubes are made by the dipping process. Self ends can be nipple or nozzle shaped, or a molded polyethylene shoulder and screw cap can be attached to the tube during process, which also coats and seals the closure.

be removed after the tube is emptied and placed on the paint can to identify the mixed shade.

Dental impression material

Surgident, Ltd., West Los Angeles, had unusual package requirements for its Surgident Dental Impression Material—the stuff that is used by dentists to take a mold of the teeth for reconstruction work.

The product is a hydrocolloid that must be filled into the package while hot and sealed in a way to avoid entrapping air. Upon use by the dentist, the product must be remelted by placing the package in boiling water. After melting, the material has to be kneaded to a uniform consistency while still in the package.

4. Elimination of pinholes.
5. Elimination of perforations in sealing, such as might occur in crimping and sealing metal tubes.
6. Visibility of product.

In high-altitude localities, such as Denver, the company found, the tube can be boiled in water containing glycerin, whereas under such conditions a metal tube of this product, if unopened, might explode. It was also found that the product can be frozen in this tube without damage to the tube or product. Freezing could be a hazard during winter shipments, particularly by air.

Finally, with a compact filling and sealing set-up, Surgident was able to increase its production facilities without adding floor space.

Color craft sets

Color Craft Hobby Sets, Inc., has built a toy and hobby business on the idea of using harmless vegetable colors in all sorts of interesting ways —for multicolored Easter eggs, for dipping of circus cut-outs and for colorful decoration of household objects.

It was desirable to package these colors in liquid form and for some time the sets were held off the market because of the difficulty of finding a package that would not break in handling by the children, that would not leak, that would not be messy in use, that would dispense just one drop of the pasty liquid at a time and that would not allow the product to dry out by exposure to air even while actually being used by the child.

The new vinyl tube proved to be the answer. The tubes are filled and electronically sealed in the manner previously described. The drop-at-a-time dispensing problem was solved by design of the sealing dies so that when the sealed area is cut straight across through the middle with a pair of scissors, only a small orifice is opened into the product.

PHOTOS, COLOR CRAFT HOBBY SETS, INC.

EXTENDED END of tube provides a novel and practical means of attaching tubes of vegetable colors to Color Craft sets. Carded items are merely stapled on. Cutting tube through bead of color in seal area provides drop-at-a-time dispensing.

After thorough laboratory testing, Surgident decided that the new vinyl tube was uniquely qualified for the job. It was found that these tubes, filled with the product, could be boiled in water completely submerged without rupturing or leaking either of product into the water or water into the product. The complete flexibility of the tube made kneading very easy for the dentist, and visibility of the product through a transparent tube was an advantage.

There were other advantages, enumerated by the company as:

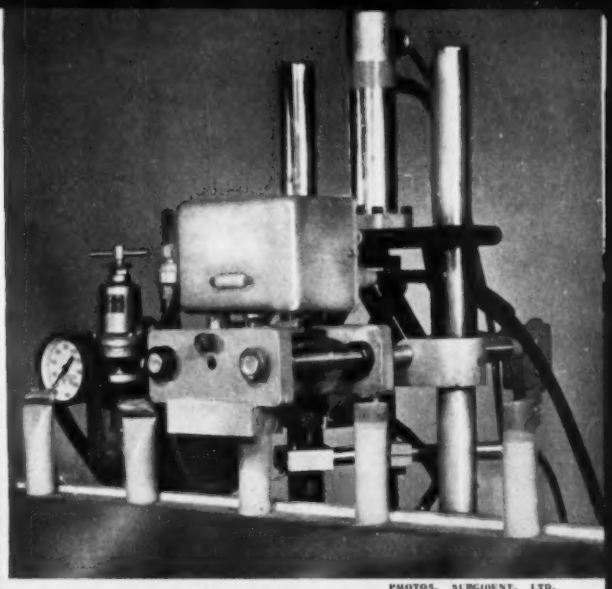
1. Minimum of breakage.
2. Long shelf life.
3. No possibility of contamination of product from metallic salts such as would be encountered in metal tubes.

The tubes are filled on a conventional paste tube-filling machine and sealed on the special electronic heat-sealing equipment furnished by the tube supplier.

With this product it is important that no entrapped air be left in the tube with the product. With the electronic equipment, the vinyl tube can be sealed directly through the contents. That is the technique used by Surgident. The seal is made through a slight excess of the product. The filled tubes are returned to their original partitioned box to cool and after 30 minutes the excess product can be removed without taking the tubes from the box. After allowing the tubes and contents to cool overnight, the excess tube length can then be trimmed off and the finished tube inserted in a folding carton.

Surgident's salesmen report that the convenient, functional package has had an encouraging reception from dentists.

STEPS IN FILLING Surgident. To avoid air entrapment, tube is sealed (A) through slight overflow of product; after 30 min., excess product is removed (B); after overnight cooling, excess tube length is trimmed (C) and finished tube inserted in carton (D).



PHOTOS, SURGIDENT, LTD.

SEALING MECHANISM on the Surgident filler. Tubes, which are held positioned in fixture, move in straight line through high-frequency sealing jaws. The sealing die can emboss the product name or code number on tube.

Instead of trimming off the excess tube length below the seal, Color Craft uses this length to staple the tubes to cards, in the case of the Easter Craft and Super Circus Colors sets, and to hold the tubes in die-cut slots in a platform in the case of the Color Craft hobby set. Secondary package costs were reduced by the use of cards and by the fact that all sets can now be boxed without fear of breakage.

"Not having to handle our tube with kid gloves," says Chester S. Handler of Color Craft, "has increased our production considerably every step of the way."

The fact that this is a completely new kind of package, plus the fact that colors are always visible through the clear plastic tubes, has greatly enhanced the merchandising possibilities of Color Craft products and this is already evident in sales, says Mr. Handler.

The vinyl plastic tube has proved to be completely satisfactory in this application, both cost wise and sales wise.

Further possibilities

For those who may want printed tubes, the manufacturer has been working along three lines: (1) silk-screen printing, which is accomplished similarly to the decoration of polyethylene bottles, (2) dry offset printing, which is more economical if satisfactory quality can be obtained and (3) transfer decoration.

Tubes have been built experimentally, according to the manufacturer, with an atomizer to give a spray action similar to that of a squeeze bottle. Another possibility is a two-component package, one component being a catalyst in a small tube with a nozzle that inserts into the neck of a larger tube.

Other products believed to be prospective users of this tube include tooth paste, shampoo, permanent-wave solution, hair rinse, suntan cream and oil, shaving cream, bubble bath, burn ointment, waterless hand cleaner, soap solution for bubble-blowing sets, finger paints, printing ink, library paste, pipe joint compound, bicycle grease, outboard motor grease, graphite, mastic bonding materials, latex adhesive and a detergent or wetting agent for use in fire fighting.

CREDITS: *"Vynite" vinyl collapsible tubes developed and manufactured by Wallace Container Co., 5862-68 Crocker St., Los Angeles 3, Calif., using B. F. Goodrich Chemical Co. "Geon" resins. Electronic heat-sealing unit designed and built by the Miller-Robinson Co., 70 and Avalon, Los Angeles 3. "Kliklok" cartons for California Ink Co. colors, Container Corp of America, 38 S. Dearborn St., Chicago 3.*

PHOTO, WALLACE CONTAINER CO.

PRINTING has been achieved experimentally. This is orange and dark blue on white tube.

PHOTO, GOODRICH CHEMICAL CO.

TINY TUBE can seal small precision parts in oil bath. Transparency permits identity of contents.

PRE-SHIPMENT TESTING

INCLINE-IMPACT testing device (Conbur) simulates longitudinal shocks and impacts received in actual shipment. On side of container is shown recording instrument on mounting board for accurate measurement of shocks. These are two of the three equipment items required for testing packaged products over 100 lbs. under the National Safe Transit procedure. Certification label shown in color is now universally recognized as proof of a safe shipping package.

The red-and-yellow shipping label being used on packaged units of more than 130 of the nation's leading manufacturers of enamel ware, appliances and allied metal products, is an active working symbol of a plan that has produced positive results in the reduction of shipping damage. This plan is the National Safe Transit Program—a voluntary, cooperative effort involving manufacturers, container firms, testing laboratories and carriers seeking to cut in-transit losses to packaged goods.

The program has been based on the premise that shipping damage can be reduced to an acceptable minimum by pre-shipment testing of the packaged product. The National Safe Transit Committee, with headquarters in Washington, has developed a series of pre-shipment test procedures which determine in advance the ability of packaged units to withstand normal transit conditions and transportation hazards.

That the program is producing results is perhaps best indicated by its growth since 1948 from a trade association's informal Packing and Shipping Committee—that of the Porcelain Enamel Institute—to a nationwide organization with a far wider scope. Manufacturers participating today include such names as Westinghouse Electric Corp., George D. Roper Corp., Frigidaire Division of General Motors Corp. and General Electric Co.

Manufacturers whose packaged products are tested in accordance with the established NST Committee Testing Procedures are eligible for certification by the National Safe Transit Committee. Certification entitles them to utilization of the distinctive red-and-yellow Safe Transit label. Since the labeling phase was introduced in 1950, more than 25 million labels have been used. The label assures all concerned that the manufacturer has done his part to assure the safe delivery of product and carries the bold-face-type message—"Make Safe Handling Your Job!"

Evidence of benefits

Typical of the experiences of certified companies is that of the A. O. Smith Corp., Kankakee, Ill., which has been in the program since 1949. Prior to adoption of the Safe Transit testing program, the company's shipping damage was already low, running, as a rule, approximately 1%. The damage, however, was unevenly distributed, with certain geographical areas experiencing greater damages than others.

Faced with this situation the company turned to "Safe Transit" testing as a guide and carried out a packag-

The National Safe Transit Program writes a record of performance of which all shipping packagers can take note

ing redevelopment program. A number of changes were made in methods of locating the water heaters in the crates and methods of carloading were revised to the floating-load type. "As a result," says W. W. Higgins of A. O. Smith Corp., "our reported shipping damage is now only 1/10 of 1%. We do not feel that we are over-packing. From the standpoint of shipping damage our customer relationship is now very gratifying. Also gratifying is the fact that the above-indicated changes were made without an over-all increase in packaging and shipping costs."

G. L. Dobson of Tappan Stove Co., Mansfield, Ohio, points up the aid the pre-shipment tests provide for product designers and engineers. "The Safe Transit tests," he says, "were of much help in confirming our product design and selecting the type of crate best suited to our needs. Through the Safe Transit tests on the packaged product, we were able to prove, prior to adoption, the superiority of a new crate design over the type we had been using. That evidence was further substantiated when our carload shipping complaints dropped almost to zero as soon as we started to use the new crate."

This experience has been repeated many times by the program's participants who, in the words of E. J. Thomas, chief engineer of the Lindemann & Hoverson Co., Milwaukee, "would not attempt to get along without the testing procedures during the design and production of appliances." Citing an example, he said, "With these standards of tests we were able to reduce the size of the cleat stock in our containers and reduce the fibreboard from 0.100 to 0.086 and finally to 0.074. We were also able to reduce the built-up corrugated pads from 1¾ to 1 in., and from 2¾ to 2 in. This resulted in considerable cost reduction and our shipping damage is practically nil with the float method of packing ranges."

An example of both the elimination of damage and the maintenance of quality control through pre-shipment testing is provided by H. E. Williams, product engineer of the Kuehne Mfg. Co., Mattoon, Ill. "We had experienced trouble," he says, "in eliminating the puncturing of cartons by the legs of our dinette chairs. Heavy-test fibreboard caps were placed over the legs—and still the puncturing occurred. By utilizing the Conbur tester, it became evident that these punctures were not the result of wear, but of shock and internal movement. The package was reduced in size to eliminate all internal shifting and fibreboard leg caps were applied. The result: legs protruding through punctured cartons were eliminated."

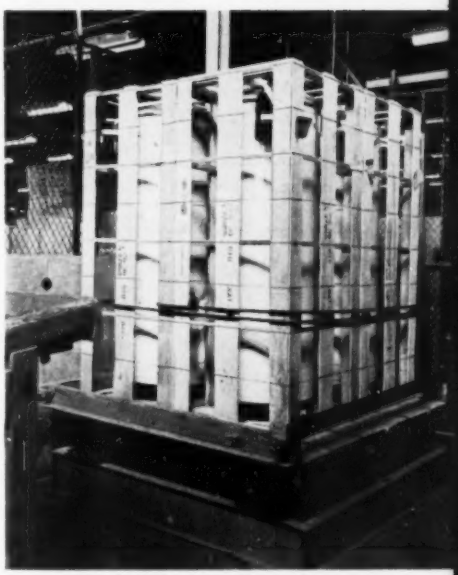
This case history, however, does not end there, because later on, after the package had passed the NST tests, it was found that chair legs were again protruding. This was traced to one shipment of cartons. These cartons were found to be of a quality much inferior to those used in the original test. The vendor was notified and the condition corrected.

Set-up of the program

In addition to manufacturers certified under the program, there are 25 certified Safe Transit laboratories. Many of these laboratories are those of container manufacturers, who are playing a major role in the program's progress. Over a five-year period they have worked closely with shippers to develop packaging methods and containers that would enable the packaged product to meet the Safe Transit pre-shipment testing requirements. Also, by installing Safe Transit testing equipment, they have made it possible for small manufacturers who do not have testing equipment in their own plants to participate.

The program still operates under the sponsorship of the Porcelain Enamel Institute and has as its other active supporters seven manufactur-

(This article continued on page 202)



VIBRATION TESTING is third requirement for packages over 100 lbs. This machine simulates resonance, flat car wheels, rail joints, rough road bed or highways, car side-sway and other handling shocks that may be encountered.

DROP TESTER is required for all products under 100 lbs. This divided-table drop tester simulates shocks incident to shipping handling. Procedure requires drops on one specified corner, on three edges radiating from that corner and on each of six container faces. Note plumb line for positioning.

Packaging's Hall of Fame®

FIFTY-SEVENTH OF A SERIES

Meadow Gold

BUTTER

During the last five years, the use of aluminum-foil wraps for ¼-lb. prints has virtually revolutionized the packaging of both butter and margarine. Almost without exception, leading producers have adopted this attractive, functional type of wrapper, which has been acclaimed in some quarters as the most important contribution to butter packaging in the last quarter century.

Meadow Gold Butter, a product of Beatrice Foods Co., pioneered this packaging innovation early in 1947 and for a period of 18 months was the only butter thus packaged. But packaging "firsts" were nothing new for Meadow Gold, which in 1901 became the first butter ever to be placed in a sealed carton. In addition, it was the first nationally trademarked butter and the first ever advertised in a national magazine. Along with the complete family of associated Meadow Gold products, this brand of butter has also been a leader in packaging design, keeping pace with the demands of today's fast-moving food merchandising.

Sales leadership was another important consideration in qualifying Meadow Gold Butter for *Packaging's Hall of Fame*. Today Meadow Gold enjoys the widest distribution of any single brand of butter, with the possible exception of certain private brands marketed by chain grocery organizations. The product is currently produced and packaged in 13 geographically located plants, with distribution reaching both coasts and extending from the Gulf to Canada. Through the recent merger of Beatrice Foods and Creameries of America, Beatrice operations have been extended to 42 additional communities in Texas, New Mexico, Utah, Colorado, Wyoming, Idaho and California, as well as in Hawaii.

Except for those whose memories extend back as far as the '90s, it is difficult to appreciate how packaging progress, hand in hand with manufacturing advancements, has revolutionized the butter industry. Prior to the turn of the century, most butter was still being produced by hand churning, often on an individual family basis. Uniformly manufactured, packaged butter was unknown; automatic wrapping and the highly developed production equipment and laboratory control procedures found in modern creameries were unheard of.

Origin of the brand

Beatrice Foods Co. had its origin in February, 1898, when its predecessor firm, the Beatrice Creamery of Nebraska, was incorporated. In 1893, G. E. Haskell and W. W. Bosworth had formed a partnership with headquarters at Beatrice, Neb., to deal in poultry, butter and eggs. In 1894, they experimented with churning butter at the request of local farmers and in 1895 officially opened their creamery for business.

Meadow Gold spans an era from

LINCOLN BRAND was one of several intermediate attempts at distinctive packaging. This is carton with waxed-paper overwrap.

INNER-SEAL CARTON, adapted from Uneeda Biscuit package introduced only two years before, was first in butter industry. Even then, Beatrice recognized value of product "sealed at the creamery" in an "airtight, moistureproof package."

NOMINATED TO PACKAGING'S HALL OF FAME BECAUSE:

- **It pioneered the improved protection of the foil-parchment wrap, which has revolutionized butter and margarine packaging here and abroad.**
- **It was the first butter to be marketed in a sealed carton and first to be nationally sold and advertised.**
- **Over 55 years, it paced the advance from primitive butter making to today's controlled product.**
- **With continuing consciousness of the importance of packaging to high quality, it ranks today as America's best-known brand of butter.**

The first ads for Beatrice butter, forerunner of the Meadow Gold brand, appeared in June, 1895, in the Beatrice *Daily Express*. That strict adherence to quality standards has been a company watchword since the founding of the organization may be seen from the following ad, written in a style characteristic of the period:

"You will find Beatrice Creamery butter in Nice One-Pound Prints for sale at Klein's New York Racket Store. The price is low and every pound is guaranteed to be made of pure cream. No worked-over store butter is offered for sale by us in this city and if you hear anyone say that our creamery is nothing but store butter you can put it down for a falsehood. Fresh Buttermilk at the Creamery, S. Fifth St., every day at 5 cts. per gallon."

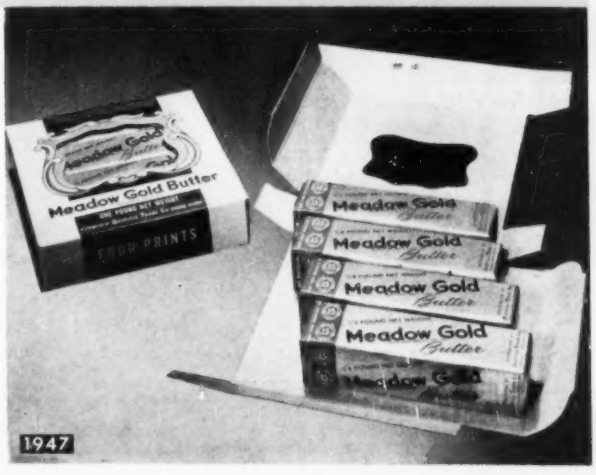
A news article published by the *Express* in October, 1895, which pointed with pride to local industries and urged residents to support home enterprises, referred to the products

TODAY'S PACKAGE proudly displays the baroque trademark of the Beatrice Foods line, appropriately framing a die-cut window through which the foil-wrapped prints—originated by Meadow Gold—can be seen. The diagonal strip across the window identifies the type of butter enclosed.

backstoop churning to modern packaging

TRANSITION to truly modern packaging was marked by 1938 adoption of flat-style carton. Prints were still paper wrapped.

SENSATION in butter merchandising was created in 1947 by first foil-parchment-wrapped prints, in colorful window carton incorporating present trademark and design.



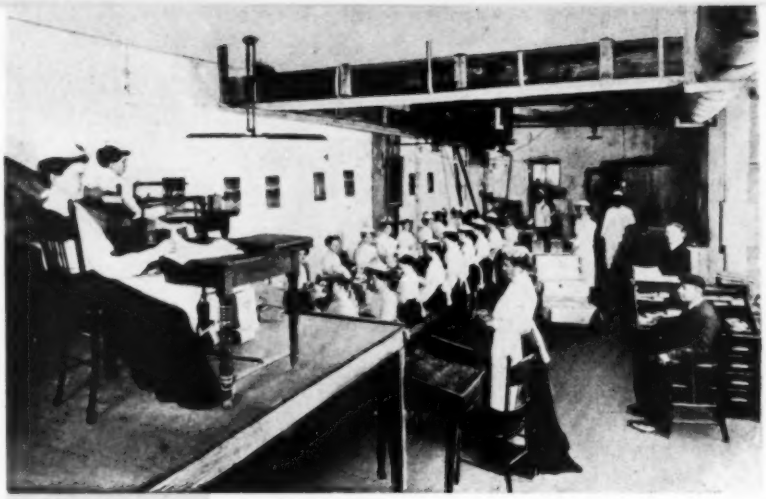
of Haskell & Bosworth in these glowing terms:

"The butter of the Beatrice Creamery ranks with the best in the world and is bought and consumed with avidity by the Eastern nabobs and Colorado silver barons. Now why isn't it good enough for Beatrice people to buy and eat? It certainly is, and so the next time you buy a pound of butter, insist that you have the Beatrice creamery brand. This city consumes about 5,000 pounds of butter per week. At 15 cents per pound this would count up a pretty figure and what a big lift it would be to the Beatrice creamery. . . . Then again, the packing house manufactures most of its crates, firkins and boxes, giving another line of employment to artisans. Long live the Butter and Egg and Poultry packing house, and success to Messrs. Haskell & Bosworth. Don't you say so?"

The "inner-seal" type of package adopted for Meadow Gold butter in 1901—the same year in which the brand name was originated and protected by trademark—had been patented by the National Biscuit Co. and was used for Uneeda Biscuits in 1899.* This package, credited with having literally taken crackers out of the cracker barrel, likewise became the medium through which Meadow Gold was first to elevate butter from the "lard tray" category.

At the time when Meadow Gold adopted this package and for a number of years afterward, the packaging of butter was essentially a hand operation. Women workers who handled the packaging were ranged along both sides of a long table having a conveyor belt down the center. Prior to packaging, the product was molded into 1-lb. prints by a workman at the far end of the table who used a maple hand block—a trough-like device which he plunged vigorously down into a bulk quantity of butter. Excess butter was then scraped off with a paddle and the print ejected from the mold by striking a plunger projecting from the block.

Finished prints of butter then moved via conveyor to the girls on the packing line, who placed the butter in the cartons and closed them, packing 30 of the individual packages in a shipping container. Other operators dated the cartons before passing them on to the packers. This was indeed a far cry from the modern equipment used in Meadow Gold plants, which forms the butter into ¼-lb. prints, wraps them automatically in aluminum foil and assembles the prints in 1-lb. folding cartons—all at rates as high as 2,200 lbs. of butter per hour.



IN THE 90s

Line principle of production had been adopted at Topeka plant, but packaging was still primitive. Conveyor in center of long table brought pound prints to girls after they had been hand molded with maple block; prints were hand wrapped.

Meadow Gold's original carton, made in the square style, was printed in brown and red on a yellow background. The Meadow Gold logotype, accompanied by the word "Butter," was given most prominent treatment on the display panel, while a red seal and coin-like emblem bearing the phrase, "Creation's Cleanest Creamery," appeared on the end panel. In the original logotype, the trade name was hyphenated, with the right leg of the "M" extended to underline the word "Meadow" and looping beneath the second word of the name. As used today, the trademark is no longer hyphenated and the earlier serif style lettering has given way to clean-cut, more legible sans serif characters. This trademark, of course, is not confined to butter, but also appears on various other products made by the company, including milk, ice cream, eggs and cheese.

Through the years, the Meadow Gold package was progressively modified to keep pace with developments in the dairy industry. A trunk-style carton was adopted in 1923 and in 1938 the company brought out a flat-style carton containing paper-wrapped prints. These marked important transitional changes, but it was in 1947 that Meadow Gold ushered in a new era of butter and margarine packaging, with its foil-wrapped prints of butter enclosed within a die-cut carton which showed off the foil to maximum display advantage.

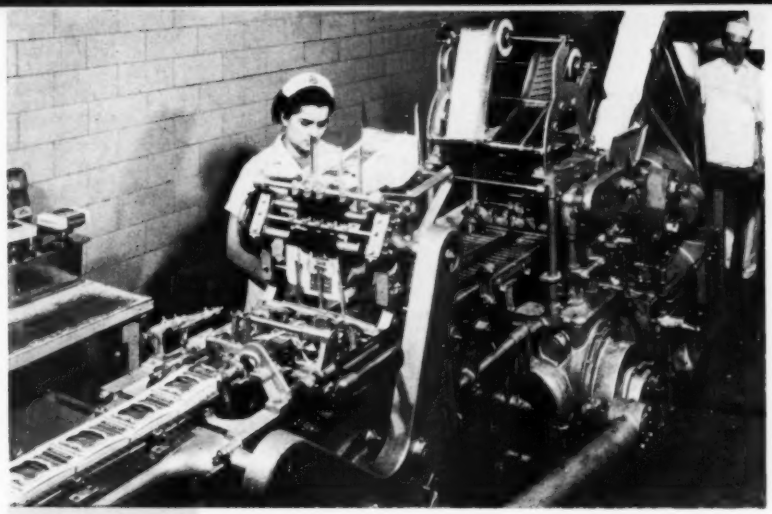
Research on foil

An extensive program of research and testing preceded the debut of Meadow Gold's sensational new butter package in February, 1947.† This investigation, headed up by Dr. G. W. Shadwick, director of quality and control laboratories for Beatrice Foods, was conducted in cooperation with the company's present aluminum-foil supplier. The focal aim of this research program was to find a new type of butter wrap which would afford more complete and lasting protection to the product in storage and distribution channels, while serving as a better means of brand identification and improving upon the appearance of the existing package.

According to Dr. Shadwick, the customary score loss of butter which takes place during the shipping and handling period was one of the principal problems which it was hoped could be overcome through adoption of an improved type of wrapper. Absorbed flavors from other food products with which the butter comes into contact and weight losses due to moisture evaporation were other difficulties which Meadow Gold wished to solve, along with oxidation of butter fat, due to light exposure, which

* See *Packaging's Hall of Fame*, MODERN PACKAGING, Feb., 1949, p. 82.

† See "20th Century Heralding," MODERN PACKAGING, April, 1947, p. 106.



AND NOW High-speed automatic machinery which forms and wraps the quarter-pound prints of Meadow Gold Butter in printed aluminum-foil wrappers and packages four of the prints in 1-lb. cartons at speeds reaching as high as 2,200 lbs. per hour.

sometimes results in discoloration of the product and imparts surface flavors to packaged butter. The re-sealing properties of the foil wrapper for continued protection of unused butter portions, eye appeal of the package design and adaptability of the new wrap to existing packaging equipment were other important factors to be considered.

During the test period, which contined more than three years, some 5,000 samples of butter were tested with different types of wrapping materials, including aluminum foil, plastics, special papers, newly developed wax wraps and various combinations of laminated materials. In all instances, the Meadow Gold package in use at that time was employed as the control material.

Butter wrapped in the test materials was subjected to cold-storage temperatures of minus 15 deg. F. for periods of 10 days to six months. It was also stored in household refrigerators at 40 to 45 deg. F. for 14 days. A room-temperature keeping-quality test was run at 70 deg. F. with relative humidity of 80 to 90% for four to 16 days. In another phase of the research program, wrapped samples of butter were sealed in large containers in contact with onions, garlic, cantaloupe, cheese, fish and leftover dishes containing various foods, for periods of from three to seven days. All samples were checked for loss in score, absorbed flavors, loss in weight and other characteristics developed during the test periods.

It became evident during the first year of this research program that aluminum foil offered the greatest possibility of providing the required degree of product protection. The supplier's development laboratory then took over the problem of determining the proper gauge of foil for butter packaging. The laboratory worked extensively on annealing foils to obtain a degree of hardness without brittleness which enabled the material to be handled satisfactorily on automatic packaging machinery and to withstand cold-storage temperatures as low as minus 15 deg. F. Proper annealing was particularly important because too soft a foil would not handle satisfactorily on automatic wrapping equipment, while a hard foil would split open under conditions of extreme cold. Since butter is a highly active product and contains salt, it was also necessary to develop a satisfactory coating for the foil wrapping material to forestall salt corrosion.

Research conducted by Dr. Shadwick indicated that test butter conventionally wrapped lost an average of two points in score more than butter in aluminum foil. Furthermore, the foil effectively protected the butter against absorbing garlic and other highly odorous foods with which it was placed in contact. An additional point in favor of the foil was the fact that the period of protection for each ¼-lb. print could be extended until the last portion was consumed, thanks to the secure re-seal permitted by the dead-folding characteristics of the material.

The tests also indicated that butter lost less weight in aluminum foil than in other wrapping materials. Weight loss of the foil-wrapped samples, for example, was 2¾% less than that of control samples. This pointed the way to important savings for the butter producer, since less allowance had to be made for "shrinkage" before the

WINDOW DISPLAY shows how Meadow Gold capitalized on aluminum wrapping ("keeps its flavor twice as long") and attractive window carton.

product reached the ultimate consumer. To determine the degree of protection afforded by the packaging material against light, photographic film was inserted beneath the various test wrapping materials. Those samples placed beneath the foil wraps showed no tendency to fog after exposure to light for three days, although film placed in packs wrapped with the control material were badly fogged during the same period, denoting light penetration which in many instances led to oxidation of fat. Dr. Shadwick's test data were substantiated by the Department of Agriculture of the State of Wisconsin, which conducted confirmatory tests.

Research with the foil wraps demonstrated that while excellent protection could be given to the butter through the use of aluminum foil alone, lamination of the foil to a parchment or tissue resulted in a wrapping material which was more easily removed from the butter and also had the necessary strength to handle without breakage on conventional packaging machinery. A foil-parchment lamination yielded the best test results, but conventional weights of parchment made the lamination too heavy and produced difficulties on the wrapping machine. In response to a request for a 15-lb. parchment to be laminated to 0.00045 aluminum foil, one of the leading parchment companies developed a material that met the specification.

The resulting foil-parchment wrapper has long since proved its ability to handle satisfactorily on the high-speed wrapping equipment used by Beatrice Foods and other butter and margarine producers. It also afforded a neater and tighter fit than had been obtained with the wrapping material previously used.

Tests by Beatrice Foods indicated that "loose" foil wrappers of this type were equivalent to heat-sealed foil wrappers as a protective barrier for butter. Consequently, the foil-parchment wrappers are not heat sealed on the individual prints of butter, but merely applied tightly by the automatic wrapping equipment.

At the outset, embossed foil was tested as a means of providing the company name and other pertinent information on the individual ¼-lb. prints, but this approach was discarded in favor of three-color gravure printing directly on the foil, further enhancing the appearance of the wraps and maintaining the identity of each print until it has been completely used.

Carton styling

Due to the high degree of protection afforded by the foil wraps, it was possible to die-cut the outer paraffined folding carton so that the individually wrapped prints could be seen without impairing the keeping qualities of the butter. The surface design of the Elgin-style flat butter carton adopted for the new package was tied in with the new over-all design treatment which had been developed for the entire family of Meadow Gold products. Dominant features of this family design include prominent use of the modernized Meadow Gold logotype within a distinctive baroque frame which identifies the line at a glance.

Retention of the flat, Elgin-style carton used prior to adoption of the foil wrappers was considered advisable because of its storage convenience, its display advantages at the point of sale and the amount of printing surface which it affords. On one display panel, the butter carton has a die-cut window within the area enclosed by the decorative frame; the opposite panel is not die-cut, but carries the words "Meadow Gold Butter" within the cartouche. On the window side, a diagonal strip of paperboard crosses the window area, reinforcing the opening and also carrying the designation of the type of butter within the package—salted sweet cream or unsalted. A wide red band encircling the salted butter package and a corresponding green band for the unsalted variety enable them to be distinguished easily at the point of sale. These color panels serve as background for most of the printed information on the packages. Use of silver-foil wraps for the salted butter and gold-colored foil for unsalted similarly identifies the individual prints.

Officials of Meadow Gold Foods announced the new foil butter wrap and redesigned cartons at a special Drake Hotel luncheon in Chicago, where Dr. Shadwick outlined the three-year program underlying adoption of the improved wrapper. Simultaneously, news of the new package was released to Chicago housewives with appropriate fanfare by means of newspapers, billboards, car cards, radio announcements and point-of-sale display material, hammering home the theme that Meadow Gold Butter, "now wrapped in aluminum, keeps its flavor twice as long." The company has also made extensive use of television programs to promote the new packaging.

Stated a typical ad, "Now you can be doubly sure of enjoying all the nourishing goodness of fine-quality butter, fresh from the creamery. Because Meadow Gold's wholesomeness and flavor are doubly protected for you by the greatest butter packag-

(This article continued on page 236)

QUALITY CONTROL is rigorously practiced at all of Meadow Gold's 17 plants. Here routine quality check is run on sample of Meadow Gold and companion Blue Valley brand in Beatrice Foods' Chicago headquarters plant.

Heavy loads in corrugated

Two examples of impressive savings to be achieved by the adoption of modern, engineered shipping containers

Heavy-duty construction of corrugated containers is permitting this type of shipping package to move into the heaviest industrial products, frequently with spectacular savings in shipping costs.

Two recent examples where corrugated has replaced heavy wood boxes may be found at Victor Insulators, Inc., Victor, N.Y., and the Carboloy Div. of General Electric Co., Detroit. Both companies ship products which are small in size but previously considered too heavy for corrugated.

Victor reports labor savings up to 68% with a new double-wall corrugated box, accompanied by a 42% reduction in materials costs and a 15% cut in freight costs, totaling a reduction of 13% on the over-all cost of its No. 127-R porcelain insulators for power lines.

Formerly, to assure safe delivery, six of these units were packed end to end in a wirebound, hexagonal-shaped crate. Wooden spacers were required. Corrugated-box engineers recommended a specially designed slotted box of 275-lb.-test, double-wall corrugated board, with pad and partitions to hold eight insulators instead of six.

It was found that the new box provided maximum safety to the porcelain. One man now packs more insulators than two did formerly.

The new two-piece corrugated container which has been adopted by Carboloy for shipping cutting tools is delivered in flat sheets properly cut and scored. One blank folds to become the base of the container, while the remaining blank becomes a telescoping top.

The containers, constructed with weatherproof adhesive, are reported to have an excellent record for protecting contents in outside storage.

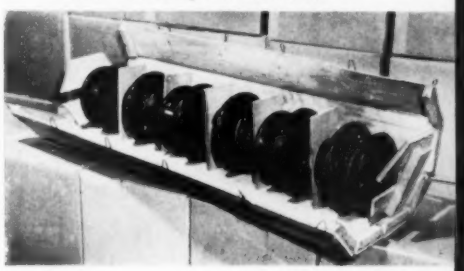
Double-wall construction makes them four-ply thick and on the two ends they have die-cut slots for handling. They are capable of carrying a 275-lb. load.

Carboloy estimates savings at 66%, including lower basic cost of the container, reduction in shipping weight, elimination of nails, less handling and a decrease in the use of cotton wadding.

Recently 129 cartons were addressed to a New Jersey firm—a typical order and a typical destination for the products. Net savings on this single shipment were $59.

Another important merchandising advantage of the new containers is the opportunity they offer for printed trade identity on the outside of the package—an advantage which Carboloy did not previously have with its former wooden containers.

FOR INSULATORS, double-wall slotted box with pad and partitions to hold eight insulators cuts over-all costs 13% in comparison with former wirebound crate (below) which held only six insulators.



HEAVY TOOLS in new two-piece, telescoping, corrugated multiwalled container, with hand slots, saves Carboloy 66% on package costs and gives better product identity.

CREDIT: *Corrugated containers, Hinde & Dauch, Sandusky, Ohio.*

Design

Colorful cartons reproduce Old San Francisco in miniature

The atmosphere of Old Francisco is a favorite motif for ingenious and colorful packages favored on the West Coast for many California consumer products. An imaginative photographer thought of assembling five examples—representing five different industries—in a realistic 'Frisco street scene. The "Delicatessen" cocktail-napkin carton for Monogram of California represents the paper-products industry. "Signature" wine-shop package, a set-up box for Petri Wines, represents the wine industry. Store-front candy carton for Edy's Character Candies represents the retail candy industry. The fancy-food industry is represented by Julliard Fancy Foods Co.'s "Cheese Shop" set-up box. The Cable Car carton contains Miss Saylor's chocolates. Three of the packages—Signature, Edy's and Cable Car—have won packaging competitions.

CREDIT: *Cartons and set-up boxes, Fleishhacker Paper Box Co., San Francisco.*

Jelly in collapsible tubes offers a new consumer convenience

A sizable added market for jellies in a quick, dispenser package with easy reclosure is envisioned by C. H. Musselman Co., which is selling apple-raspberry jelly in a metal collapsible tube that could well start a new packaging trend. Processors of foods since 1907, the company does not consider the tube a replacement for glass, but feels there is a place for handy tubes of jelly for use in making sandwich spreads, decorating pastries, topping ice cream and other desserts, or as flavorings. The full-color lithographed tubes contain 6 oz., a quantity selected as practical, and are 7¼ by 1¼ in. in diameter. Apple and raspberry illustrations decorate the white tube. Tubes are merchandised upright, a dozen to three-color printed counter display cartons. The company reports favorable trade reaction to the package.

CREDITS: *Tubes, A. H. Wirz, Inc., Chester, Pa. Carton, Maryland Container Corp., Baltimore.*

Histories

Self-sealing, reclosable vinyl gripper secures first-aid kit

One of the first applications of the flexible-grip, resealable vinyl closure on a commercial package is that adopted for what is reported to be a "dustproof, waterproof, airtight" vinyl first-aid kit marketed by Johnson & Johnson, Ltd., in Canada. The diagonal closure is opened simply by lifting a small tab on the closure. It reseals itself securely merely by sliding a finger along the grooved strip, applying firm pressure to assure a complete seal. Because the closure is placed diagonally across the kit, it is said the case can be placed upright, upside down, or on its side without danger of opening. It is light weight and resistant to oil, grease, strains and abrasion. The material is heavy gauge vinyl sheet. Red printing identifies the kit. A small tab on the back permits wall hanging.

CREDITS: *Kit, Montreal Suspender & Umbrella Co., Ltd., Montreal. Vinyl, Canadian Resins & Chemicals, Ltd., Montreal. Flexitite closure, Flexigrip, Inc., New York.*

Six Flako products now use one family name

Since it was introduced for a pie-crust mix in 1952, the trade name, Flako, has won an enviable place among pie makers. Flako Products Corp. also markets five additional mixes, each of which has carried its own coined name: Flakorn corn muffin mix, Cuplets cup cake mix, Flakies cookie mix, Quiko biscuit mix, Topova popover mix. To capitalize on the well-established Flako name, the company has just completed a repackaging program to put all the products under the Flako name, with the exception of Flakorn which, it says, is a natural in the family. The company has also taken the opportunity of the name change to sharpen the sales appeal of all the packages with new full-color, fine-screen photographic illustrations of mouth-watering foods to be made with the mixes, yet the redesign retains recognition value of the old. Distinguishing colors identify each product.

CREDIT: *Cartons, Lord Baltimore Press, Baltimore.*

Glue-lap acceptance gains

The corrugated container joined only by adhesive is demonstrating advantages for several large packing concerns

DIVERSITY of products now moving in glue-lap containers is illustrated by these five examples in different fields: beer, butter, auto accessories, electrical equipment and motor oil. And users are finding it to be equally effective for large containers as well as for small-sized ones.

Since its introduction in 1950,* the corrugated shipping container with a glued—rather than taped or stitched—manufacturer's joint has attracted widespread interest and has shown considerable promise. This has been based chiefly, however, upon laboratory tests and manufacturer reports, with little information available as to field performance.

But now, nearly three years after its introduction, enough field experience with the glued-lap container has been recorded by users to provide a clear performance pattern. A recent survey of major users indicates that adoption of the glued-lap box is on the increase and that its success is due to various specific advantages in some applications. Based on from six months' to more than two years' experience, the replies of users substantiate the claims of major manufacturers that the container is being adopted in "phenomenally increasing quantities." One of the leading manufacturers of adhesives for this type of box reports an increase of over 600% in sales of the glued-lap adhesive in 1952 over 1951, with another big jump occurring this year.

Attention was focussed on the glued joint at the beginning of the Korean war when metal for wire stitching and tape were both short. And while both stitched and taped joints are perfectly satisfactory in their many respective applications, the use of the glued joint is on the increase for certain purposes.

Most commonly cited reason for adoption of the glued joint is the strength and durability of the glued joint under moist and refrigerated conditions. The taped joint also has good moisture resistance, but tends to be a little more expensive to manufacture. The stitched joint, while competitive in cost with the glued, is less dependable under moist conditions, some users feel.

A number of major users, including Armour & Co., state that the glued joint is very effective where containers are stored under frozen, refrigerated and moist conditions. While moisture does tend to soften boxboard, the adhesive itself is insoluble. Thus the softening of the boxboard does not affect the joint. In fact, laboratory tests have shown that even after moistened boxboard has disintegrated, the glued joint is still intact. Another factor reported is that since the joint is sealed flat from top to bottom, it does not pucker and the containers stack evenly. Since no metal is used in the joint, there are also no sharp edges to knife through moistened boxboard when the joint is under the pressure of stacked containers.

Two of the largest can manufacturers have switched to the glued-lap joint for canned-beer containers. The reason given is moist plant and storage conditions, which occur both in the brewery and in the retail-store refrigerator. But no doubt the roughest practical test of the joint's effectiveness is being provided by Maine's sardine packers, 80 to 85% of whom are now reported to be using it in their containers. These plants are mostly located on wet, foggy piers, on which the containers are stored in all weather.

Another feature users like is the smooth interior of the glue-joint container. Both General Foods and Procter & Gamble, who package frozen foods and soaps, respectively, in plastic film or in wraps with labels at-

* See "Glued-Joint Shippers," MODERN PACKAGING, March, 1952, p. 244.

tached, find that the absence of metal inside the container eliminates torn or marred packages.

They also report, as a reason for adoption, the insurance provided by glued joints against possible shortages of containers dependent upon metal for adequate supply.

Other reasons given include a report that the glued-lap box is more uniform and makes up "square" consistently. This feature permits the effective use of case-packing machinery, an important labor-saving device. Other factors reported as influencing adoption of the glued joint are the clean, neat look of the container itself and the better storing qualities of box bundles. The stacks lie flatter and don't tend to belly out in the middle. Advertising-wise, the smooth, unbroken panel surface can be printed in its entirety, permitting better balancing of copy.

Comparative tests were run on the glued-lap container by at least four major companies before it was adopted. Procter & Gamble report the glued joint strongest in the tumble-drum test and General Foods' impact tests show it to be at least as strong as other types. Armour & Co. find it "entirely satisfactory," but give no specific results, while the Marcalus Co. states that "it compares favorably with any other type we have ever used."

As for strength versus size, several users—among them Procter & Gamble and General Foods—have found the glued joint to be as effective in large as in small containers. While using this container on a relatively limited basis, General Foods reports using it in sizes "medium to large."

No cases of joint failure are reported and other flaws that could occur in use have been minor. The only construction flaw cited is an occasional poor glue application. This is chalked up to human error, however, and not to an inherent fault. In any case, it has occurred only among the first few containers received from a manufacturer. No users report any glued-joint failures due to rough handling, aging or storage under extreme atmospheric conditions.

Container manufacturers, some of whom are planning extensive increases in glued-lap box production, did not, of course, learn all the tricks of making this container overnight. While the manufacturing process is chiefly a folding operation which does not require complex equipment, container producers have found that production nonetheless must be carefully controlled. Rigid inspection is required to insure that the lap is properly coated with the adhesive, which must be at the right temperature and viscosity.

Assuming the boxboard is of good grade and the joint properly made, the most important element of manufacture is the adhesive, since the entire box stands or falls on the bond between the laps. If the adhesive fails, the joint fails and the entire container fails. Further, all the advantages of this type of container stem from the fact that its manufacturer's joint is glued with a specially developed resin emulsion adhesive which, to be effective under all circumstances, must produce an insoluble, verminproof and dustproof bond. Consolidated Freight Classification No. 20, which became effective Oct. 15, 1951, states "the sides of (corrugated) box forming joint must . . . be firmly glued throughout the entire area of contact with a glue or adhesive which cannot be dissolved in water after the film application has dried."

Final inspection, according to one manufacturer, is relatively simple; the rule of thumb is that "if a glued joint looks right, it is right; and vice versa." But further to insure a uniform product, many manufacturers send a weekly production-line sample to a control laboratory in New York, which runs comparative tests on it. And the laboratory reports keep each company informed on the performance of its product in comparison with those of other manufacturers.

Saleswise, manufacturers report that their various types of glued-lap containers—several have special ver-

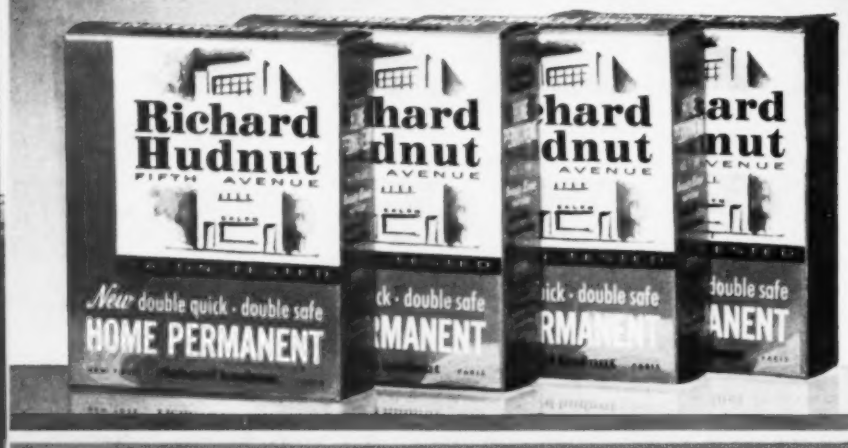
(This article continued on page 238)

UNDER REFRIGERATED and moist conditions, glued-joint container appears to have special advantages in strength and durability. Birds Eye is important user for its frozen vegetable packs.

SMOOTH INTERIOR is a feature liked by packers who use packages with overwraps of paper or plastic films. They say the absence of metal in the container helps to eliminate torn or marred packages.

STACKED containers of Old Dutch coffee in stock room of New York supermarket indicate growing confidence of packers in sturdiness and efficiency of glued joint.

PHOTOS, DEWEY & ALMY CHEMICAL CO.



INSTANT RECOGNITION is given to carton in any self-service display. Featured is Fifth Avenue Salon to which one out of 10 women in U. S. has at one time written. Boot combines curler and permanent packages.

The self-service look

The revolution in package thinking taking place among manufacturers whose traditional markets have been drug and department stores, but whose eyes are now being turned to the impressive success of self-service selling in every type of retail outlet, is strikingly illustrated by the new line of packages for Richard Hudnut home permanents and other hair-treatment products.

These new packages have all the self-selling impact demanded for self service: strong recognition; hard-hitting selling copy; complete detail on what the product will do and how to use it; bold color treatment and, in the case of the children's home permanent, a full-color photographic illustration.

Gone is the old conception of what for years has been spoken of as the "cosmetic look." The new design technique represents a major policy change for Richard Hudnut, which has been selling the drug and department-store field since 1880.

Significant trends in retail distribution and changes in consumer buying habits convinced Hudnut that all new packages for large-volume items today should be designed to have maximum display impact at the point of sale. The hair preparations are just the beginning. This procedure will not only help the thousands of drug outlets and department stores to which Hudnut sells, it is reasoned, but will pave the way for increasing volume in the large self-service type of outlets.

PHOTOGRAPHIC ILLUSTRATION in full color gives display punch to children's package. Production economies were effected by use of folding carton and standard inner components that permit handling on automatic cartoner.

To spotlight the attention of executive personnel on this new line of thinking, top management at Hudnut, in cooperation with its independent design consultant, prepared a presentation covering the whole subject of this new concept of merchandising. It might well be used as a model by other companies where similar changes in policy will eventually have to be faced.

Wrote I. R. Linnard, vice president in charge of merchandising, in the foreword to the presentation:

"Right now, changing buying habits of John Q. Public, whether we like them or not, are more important to our future growth than either our company's or the industry's merchandising activities.

"Self-service selling is here and growing; it requires new thinking and

FORMER PACKAGE for permanents had too small display area. Children's package had "cuteness," but it lacked the possibilities for strong display.

more thinking on our part. What shall we do about food stores, syndicate stores and our normal outlets?"

Any attempt to sell this new market can succeed, according to Mr. Linnard, only if merchandising and advertising activities are re-evaluated in terms of new requirements.

And one of the first of the new requirements was the immediate redesign of the packages for some of Hudnut's fastest-selling products. With pictorial visualization and carefully selected statistics, the presentation shows why. The packages needed (1) instant family recognition, (2) prominent identifying symbol or trademark, (3) bright distinguishing colors for different products in the line, (4) silent salesmanship by means of copy, type and layout to tell at a glance what the product is and what it will do, (5) suitable treatment for mass display and (6) a review of production techniques to effect economies.

Carefully planned redesign of Hudnut's hair preparations reveals the new strategy in the cosmetic industry today

One section of the presentation is devoted to modern techniques of presenting essential selling information on the packages through copy on labels, cartons, collars, boots, tags and booklets. Another page is titled "Essential Elements of Bottle Design," discussing the desirability of containers that will give maximum display, be easy to fill and label, provide maximum economy of space in packing, storage and display, and feel good in the hand.

Initial products selected for package redesign were those most logically adaptable to self-service selling techniques. In Hudnut's case these were the hair preparations—home permanents for women and children, two kinds of shampoo and a hair conditioner. These are fast sellers running somewhere between 15 and 20 million dollars a year.

The first recommendation was for a strong format to provide instant recognition of any Hudnut package in any type of display. It was pointed out that the design treatment should be flexible to permit the use of different types of illustration, lettering and coloring, yet always maintain the Richard Hudnut identity. Just being pretty was not enough.

First to be tackled was the package for the home permanent. The possibility of adopting a short, catchy trade name, similar to those used by competition, was discarded. It was decided that to introduce an unknown product name would represent a sizable advertising and promotional investment which was unnecessary for a firm with the long-established prestige and reputation of the Richard Hudnut name. The name "Richard Hudnut Home Permanent" was therefore continued, but a complete design revision was made. In place of a former vertical square carton, the present package is a broad shallow carton providing large display area on the front panel. The dominating element on the yellow, gray and black surface of the redesigned carton is the name "Richard Hudnut."

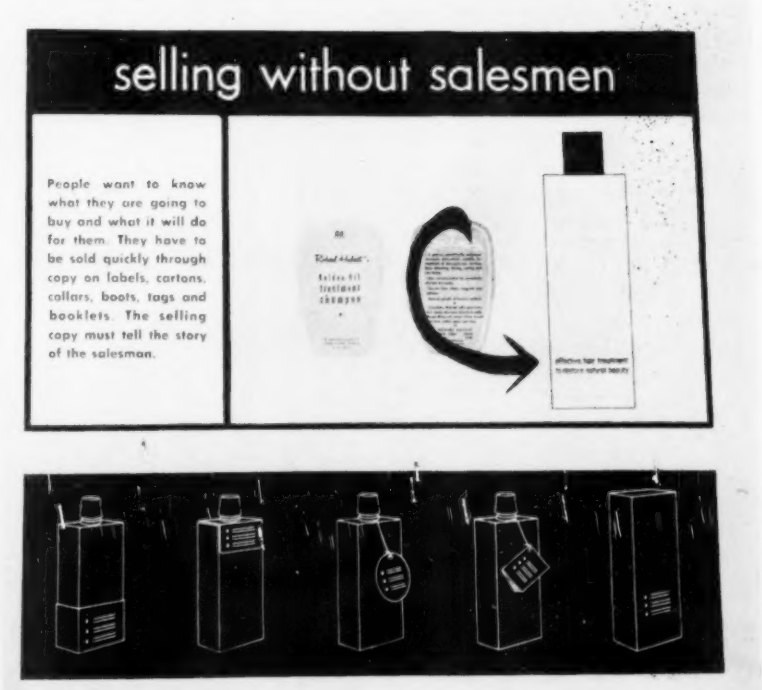
Several different pictorial effects were tried, including a full-color fashion head showing a finished hair-do. Management, however, selected a stylized drawing of the Richard Hudnut Fifth Avenue Salon, on the strength of the fact that one out of every 10 women in the United States has written in at one time or another to the Hudnut Salon. The final design carries the phrases "Richard Hudnut Fifth Avenue" and "Salon Tested," both of which have proved to be cardinal selling points.

Front and back panels of the carton are the same, so that no matter which way it is placed, the same display effect is achieved. More selling copy and contents information are carried on the side panels, so that the user has complete data about the product whether or not a salesperson is on hand. Even since the original design was adopted, the company has sharpened trade identity further on the side panels to give maximum recognition on every face of the package.

The Richard Hudnut Home Permanent package is also offered in a boot combined with a carton of Richard Hudnut Whirl-a-Wave Curlers and called the Home Permanent Combination Package. The curler carton is designed in gray and black with yellow background to carry out a related family design scheme.

A further departure from tradition

MANAGEMENT familiarized executive personnel with new thinking in 30-page brochure. Typical page emphasizes need of essential selling data on package.



NEW

OLD

ELLIPTICAL BOTTLES permit broad frontal display impossible with rounds. Indentation near top permits firm grip. Monogram trademark in cavity gives further identity as well as attractive decoration.

is the new design of the children's home-permanent package, which now uses a full-color photograph of a beautiful little blonde girl against an aqua-colored, polka-dotted background. By replacing a two-piece folding-box construction with a standard folding carton and using standard components, Hudnut has effected production economies which permit handling the children's package on the same automatic cartoning equipment as the Richard Hudnut home-permanent packages.

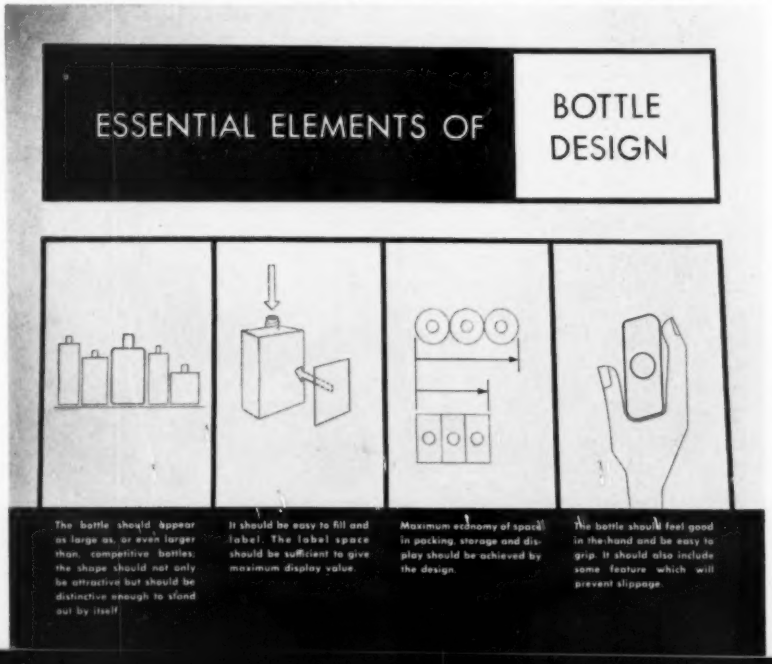
The words, "Richard Hudnut Fifth Avenue Children's Home Permanent," are immediately recognizable; the little girl's head unmistakably makes this a children's package and the message, "Guaranteed to take," with the copy, "safer, surer, simpler," helps to sell Mother when she goes to shop. The package is very different from the old one, which suggested the child idea by means of an illustration of a school slate and line drawings of two children. The shape of the package has been changed to one which shoppers usually associate with home-permanent products.

In the redesign of the hair-treatment product packages, Hudnut put into effect the recommendations outlined in the presentation. Former round bottles were replaced by a private-mold elliptical shape that provides much wider frontal display and is convenient to fit the hand. With this larger label area it is possible to use a broader label that gives more positive identity to the three hair products: Marvelous Shampoo, Enriched Creme Shampoo and Creme Rinse. Basic design of the labels is the same, but three colors—blue for Marvelous Shampoo, gold for Enriched Creme Shampoo and pink for Creme Rinse—are used for the pyroxylin-printed background, which gives an attractive metallic effect and is reported to withstand wet handling.

Since the bottles, which are offered in three sizes, will be used in the bathroom, an indentation with a pronounced texture has been placed near the top in the mold to prevent slipping and breakage. This is an interesting example of the grip indentation being placed on the face of the bottle instead of on the sides, as is customary, thereby causing less interference with the graceful outside contour of the bottles. The Hudnut monogram trademark has been placed in the cavity of the mold for further identity and decorative purposes. It is the feeling that if the bottle is pleasant and convenient to use, the consumer will come back for more.

CREDITS: *Design program, Design Associates, Ltd., 1 E. 53 St., New York. Cartons, The Wilkata Folding Box Co., 300 Hoyt St., Kearny, N. J. Bottles, Carr-Lowrey Glass Co., 2201 Kloman St., Baltimore, Md.; Hazel-Atlas Glass Co., 15th & Jacobs St., Wheeling, W. Va.; Maryland Glass Corp., Morrell Park, Baltimore 30, Md. Closures, Armstrong Cork Co., Liberty St., Lancaster, Pa.; Rayette, Incorporated, 261 E. Fifth St., St. Paul, Minn.; Bernadin Bottle Cap Co., Evansville, Ind.; Terkelsen Machine Co., 326 A St., Boston 10, Mass. Labels, Richard M. Krause, Inc., 52 E. 19 St., New York 3, and Elton T. Cowan Co., Inc., 133 W. 19 St., New York.*

PRINCIPLES of container design are outlined on another page of brochure.



Polyethylene shippers

Light-weight containers of inert plastic, in the forms of carboys and drums, are gaining favor in the chemical industry

The use of large polyethylene shipping containers for bulk transportation of corrosive chemicals and strong alkaline solutions appears to be gaining continually wider acceptance, with three different types of containers now on the market.

The 6½-gal. and 13-gal. plywood-jacketed, blow-molded, bottle-shaped polyethylene carboys introduced early in 1952* are now reported to have more than 200 commercial users who have adopted this type of package for one or more products.

The square-shaped, two-piece polyethylene carboy announced in January, 1953,† is reported to be gaining favor also. It has the advantage of space saving in storage and shipping.

A new arrival on the scene that looks promising is a steel-covered molded polyethylene drum which is being offered in sizes up to 55 gal.

The first two of the above-mentioned polyethylene containers now have full approval of the ICC, under recommendations of the Bureau of Explosives, while the third type is reported to have passed successfully all the Bureau of Explosives tests and is being used experimentally by a number of companies under temporary shipping permits.

The outstanding pioneer in the use of the polyethylene shipping container is the General Chemical Division of Allied Chemical & Dye Corp., for its Baker & Adamson Fine Chemicals. In 1952 this company announced in its advertising "To serve industry's need, B & A offers Reagent Hydrofluoric Acid to bulk users in the first plastic carboys ever made."

The containers used by General Chemical for this purpose are the bottle-shaped polyethylene carboys, blow-molded in one piece, in both 6½-gal. and 13-gal. sizes, with wall thickness of $\frac{1}{10}$ in. and equipped with a cylindrical outer jacket of four-ply phenolic-bonded, water-resistant plywood. One of the chief reasons for its initial selection by General Chemical was to assure product purity, possible because of the inert characteristics of polyethylene. Additional advantages were an estimated 20% saving in transportation costs of the filled carboys and a 60% saving in shipping costs of empties.

After more than a year's use, General Chemical Co. rates its experience with the plastic carboy as "very satisfactory." The package, the company says, permits the shipment of high-quality chemicals without fear of contamination from the container and thereby provides a bulk container for high-purity chemicals which was not previously available.

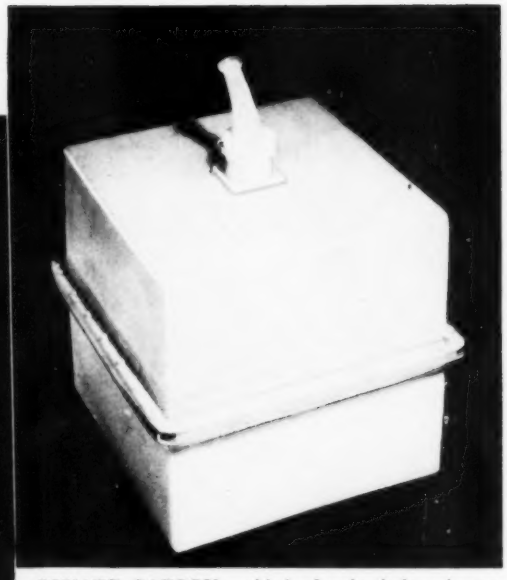
Reaction of General Chemical's customers in all cases has been favorable, due to the unbreakable feature of the new containers and the light weight which makes the new packages safer and easier to handle. Experience has also shown that the containers are resistant to temperature changes, tests showing no leakage or breakage even at minus 10 deg. F.

General Chemical ships reagent hydrofluoric acids in the carboys for use by electronics manufacturers in the fabrication of electronic tubes, in metal treating of filaments and in the making of transitors. The polyethylene carboys are being used for fluoboric

* See "Polyethylene Carboy," MODERN PACKAGING, May, 1952, p. 216.
† See "Square for Acids," MODERN PACKAGING, Jan., 1953, p. 113.

FILLING is done with conventional equipment. Pioneer user of plywood-jacketed polyethylene carboys is General Chemical Div., Allied Chemical & Dye Corp. for Baker & Adamson Reagent Hydrofluoric Acid.

EASE OF HANDLING is illustrated by photo of girl worker moving a palletized load of filled carboys from the filling room to the shipping platform.



SQUARE CARBOY molded of polyethylene in two sections, joined by heat sealing and bolted together with steel edging, is encased in thick wood box. Western Printing & Lithograph Co. finds these containers very satisfactory for shipping solutions between its various plants. Convenient dispensing is indicated by tilt-stand device for in-plant use shown at left.

acids employed in the plating industry. And the company is planning to use the carboy even more extensively as its inventory of earlier types of containers is exhausted.

Early this year a new finish and shoulder design and a new type of closure were developed for the blow-molded polyethylene carboy. The new closure is reported to eliminate the need for a cap liner and to permit closing by hand or with a torque wrench. The new design also offers greater inside diameter for easy pouring. With increasing use, the cost of this container has recently been cut 10%.

Industries other than the chemical which are using the polyethylene carboys include pharmaceutical, electrical, oil, cosmetic, aircraft, metal, automotive, plating, food, glass, paper, photographic, transportation and Government.

In addition to hydrofluoric and fluoboric acids, the polyethylene carboys are being used by various companies for the shipment of hydrochloric, lactic and sulfuric acids. Among the alkalis, the container is carrying potassium hydroxide, sodium hydroxide, alcohols, battery electrolyte and inorganic salts in aqueous solutions. Some firms are using it for mineral waters and distilled waters where high purity is required. It is also being used for pharmaceutical antidotes for lead poisoning, blueprint solutions, rustproofing products, bulk cosmetics, Teflon emulsions, adhesives, chromic acid solutions, powdered magnesium and phosphate solutions.

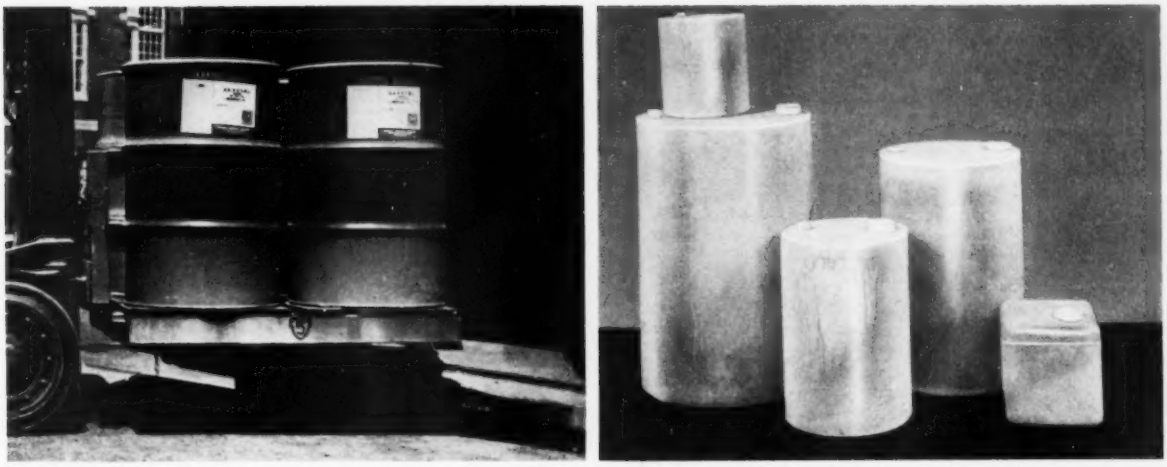
The 15-gal. polyethylene square carboy originally developed for Tennessee Products & Chemicals Corp., Nashville, Tenn., for the shipment of muriatic acid and other hard-to-handle chemicals has made a place for itself because of its cubical shape which permits it to be stacked five or more containers high for palletized shipment.

This container, which has a uniform wall thickness of ⅛ in., is molded in two half sections, joined into a unit by heat sealing and by reinforcing a bolted-together steel edging that completely rims the four sides of the container to form a permanent mechanical seam. The polyethylene containers are encased in ¾-in.-thick wood boxes, reinforced with triple-coated, acid-resistant steel strapping. The top of the box is recessed to protect the closure and to permit stacking of one container on top of another.

For the last eight months, Western Printing & Lithograph Co. has been using this container for shipping hydrochloric acid, ethyl alcohol, gum arabic solutions and ammonium hydroxide solutions, both by truck and railroad, between its several plants in different parts of the country.

According to a company spokesman, the square polyethylene carboys have proved very satisfactory. They are favored because of their unbreakable and light-weight features, because of their 15-gal. capacity and because they are much easier to stack and store.

Although it is too early to report conclusive results on actual commercial shipments, many companies are testing the new steel-covered polyethylene drum for such products as rustproofing compounds, hydrofluoric acid, muriatic acid, acetic acid,



UNDER TEST in a number of firms is a new type of steel-covered polyethylene drum molded in one piece which is now available to container users in 55-, 30-, 15- and 5-gal. round sizes, as well as in a 5-gal. cube shape.

bleaches and other hard-to-manage regulatory and non-regulatory chemicals.

The drum container, which is being made available in 55-, 30-, 15- and 5-gal. round sizes and a 5-gal. cube shape, is molded in one piece with side-wall thickness of 1/16 in. and with 3/32-in. top and bottom. Like standard drums, the containers have two openings, threaded to receive 2-in. and ¾-in. polyethylene drum plugs. Outer surfaces of the flanges are equipped with threads to accommodate metal or phenolic screw caps of 83- and 43-mm. dimensions. The drums can be filled on standard drum-filling equipment.

The drum sizes have been tailored to fit into standard steel, fibre or plywood jackets with the exception of the 5-gal. cube shape, which may be shipped in a standard corrugated carton.

If their performance in commercial use matches that of other types of industrial shipping containers molded of polyethylene, they will be very attractive to users because of reported low initial costs.

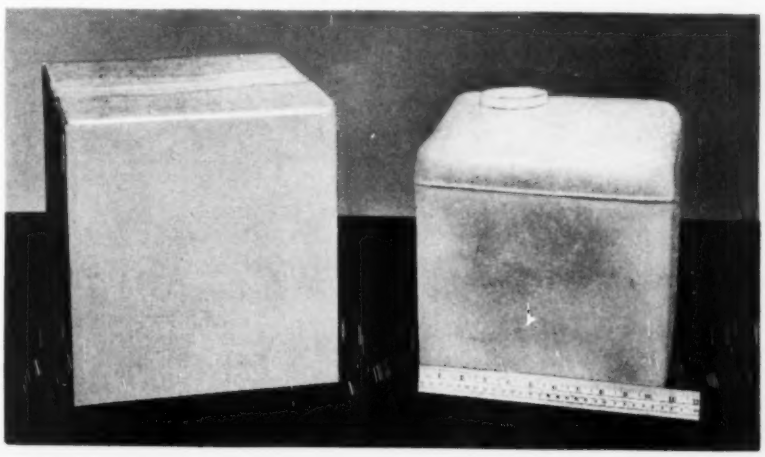
Three-to-six-month storage tests are reported to have shown no permeation of acids or other compounds. The plug closure with outside threaded cap provides a tight seal with practically no leakage, it is said. Physical drop tests of 6 ft., rather than 4 ft., were used in qualifying tests for the Bureau of Explosives. The drums were reported to have met these tests successfully.

Another interesting test has been the use of the 5-gal. cube-shaped container in a standard corrugated carton as an expendable export package for cola syrups. One firm has been making such shipments regularly to the Philippine Islands and reports arrival in completely satisfactory condition. In this case the principal objective is shipping-space savings.

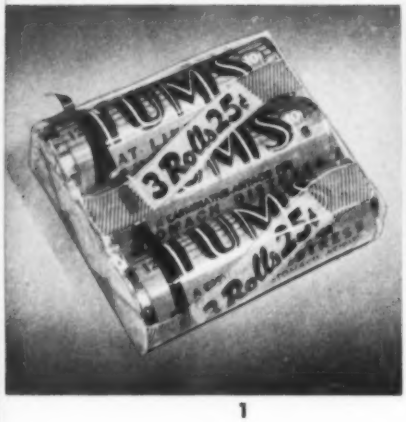
Aside from their ability to handle difficult chemicals which require an inert container material, all of the polyethylene containers in the large sizes thus offer very interesting possibilities for savings to the shipper and consumer in the form of reduced shipping costs due to the light weight. The unbreakable feature offers economy in addition to safety, in that it may be possible to obtain a greater number of trips, although all users say the containers are still too new to provide a real basis for comparison. Successful performance over specified lengths of time also means reduced insurance rates to shippers, which is particularly important where dangerous chemicals are involved.

CREDITS: *Bottle-shaped polyethylene carboys, Plax Corp., Hartford, Conn.; plywood jackets, Greif Bros. Cooperage Corp., Delaware, Ohio. Square "Karbox" container assembled and supplied by Chemical Containers Co., Inc. 141 Logan Ave., Jersey City, N. J., with moldings by A. L. Hyde, Glenloch, N. J., using DuPont polyethylene. Steel-encased polyethylene drums produced by Delaware Barrel & Drum Co., Wilmington, Del., using Bakelite and DuPont polyethylene.*

FOR EXPORT, one firm has been making reportedly satisfactory test shipments of cola syrup to the Philippine Islands in 5-gal. cube-shaped polyethylene containers within standard slotted corrugated cartons.



PACKAGING



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1 A new printed cellophane overwrap with red tear tape for three rolls of Tums anti-acid is reported to have reduced packaging costs and provides a more dramatic package for self-service selling. The transparent package gives full view to the three-in-one feature and price appears four times on the wrapper. Printed cellophane and tear tape, The Dobeckmun Co., Cleveland.

2 A trend away from traditional bottle shapes for specific wines is indicated by these new bottles for Rini Wine Co., designed for both sweet and dry wines with distinctive profile recognition. Bottles and caps, Hazel-Atlas Glass Co., Wheeling, W. Va. Labels, Consolidated Lithographing Corp., Carle Place, Long Island, N. Y. Cellulose bands, Armstrong Cork Co., Lancaster, Pa.

3 Wedge-shaped Venetian blind cleaners marketed by the Stewart Co. in square polyethylene bags attached to printed cards that pictorialize the use of the product illustrate a good way to manage odd-shaped objects. Excess material of the bag is tucked between the tongs and held by the card which slips over the handle. Result: a practical self-selling package. Package, Central States Paper & Bag Co., St. Louis, Mo.

4 A package that does a complete selling job is a window carton for Hankaway Handkerchiefs. It was essential to show the advantages of this new chemically treated cellulose handkerchief that can be used a whole day, then thrown away. This was done by a glimpse of the product through the window and with copy which covers all the selling points. Design, Margery Markley, New York. Folding carton, Robert Gair Co., Inc., New York.

5 General Foods Satina package is one of the smallest in most stores. To make it stand out, colors must "shout." Previously pale and dark blue (left), the package blended with existing blue laundry packages. An active underline, modern design of the iron, yellow background with dark blue overprint call attention to the new package. Design, Robert G. Neubauer, Inc., Bridgeport, Conn. Carton, U. S. Printing & Lithograph Co., Cincinnati.

6 The psychological value of attractive appearance as well as added protection are reported for new printed cellophane "curtains" used to dress up Richey & Gilbert's bing cherries. The two-color design accents cherries. Company plans to use curtains for apricots and possibly plums. Printed cellophane, Milprint, Inc., Milwaukee, Wis.

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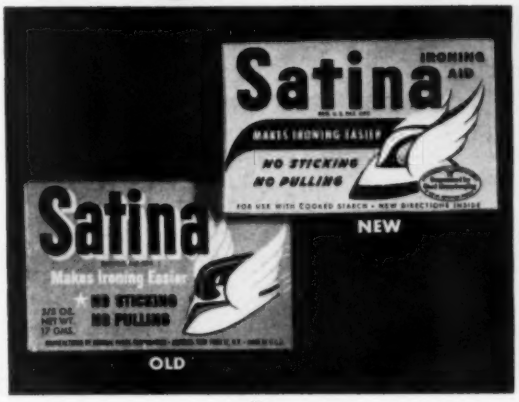

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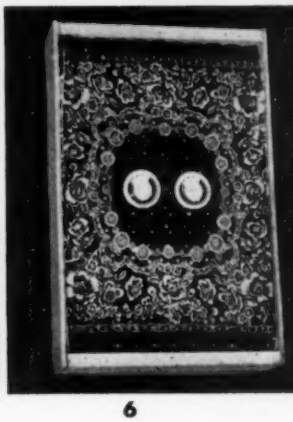

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7 Laminated aluminum foil packets were chosen for Lawry's new spaghetti sauce because the company believes they offer the best opportunity to show a full-color, mouth-watering illustration of the sauce being poured over a platter of spaghetti. In colorful display cartons, the new packages are getting enviable store locations. Foil packets, The Dobeckmun Co., Cleveland, Ohio. Custom packaging, Los Angeles Custom Packaging, Los Angeles, Calif. Display cartons and shipping cases, Fibreboard Products Corp., Los Angeles.

8 For packaging Honey Loaf, a meat food, Stark, Wetzel & Co., Inc., selected a Pliofilm casing with a new preclosed end seal reported to cut production costs. The presealing creates gussets, making the packaging of square loaves possible. Vents near seal permit air to escape as loaf is inserted into open end. Second end is heat sealed. Mil-O-Seal casings, Milprint, Inc., Milwaukee, Wis., using Goodyear Pliofilm.

9 Automatically produced cellulose acetate film pockets provide an attractive and efficient method of packaging professional samples of Pargran, a new E. R. Squibb & Son multi-vitamin capsule. Mounted in a card which gives all essential product data, the capsules are displayed in all three dimensions. Friable glassine on the reverse side enables the user to push the capsules out one at a time. Complete sample produced by Mason-Keller Corp., Roseland, N. J., using Celanese acetate.

10 Slinky is James Industries' intriguing walking-spring toy. A perforated folding box makes each toy an attention-getting display. The box breaks along the perforation to display Slinky and may be opened and reclosed. The display package is for locations not suited to a motorized display. Box, Royal Pioneer Paper Box Mfg. Co., Philadelphia, and Edwin J. Schoettle, Philadelphia.

11 One of the first reported uses of nylon for packaging is a lightweight metal-hinged case molded in two pieces for delicate diagnostic instruments, such as otoscopes and opthalmoscopes, made by National Electric Instrument Co., Inc., which completes fabrication of the cases in its own plant. The cases, which have removable molded rubber liners, are reported to have high impact strength and can be sterilized with accepted solutions. Fittings are chrome-plated brass. Molded sections, Watertown Mfg. Co., Watertown, Conn., using Du Pont nylon.

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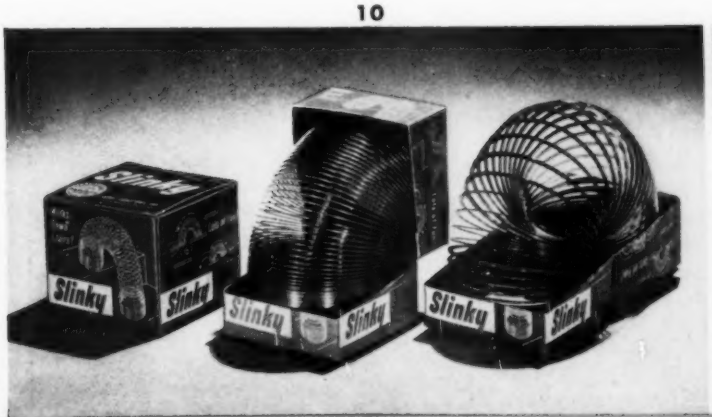

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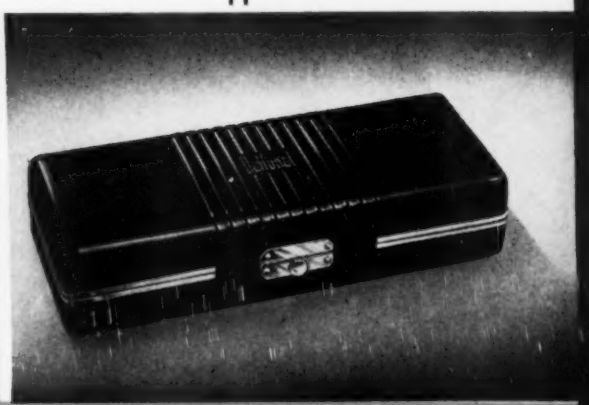


The trend to fibre for produce

Search for lower costs is met with improved corrugated boxes; lemons and lettuce lead swing from wood

In September of 1948 the Arizona Agricultural Experiment Station published a 14-page report by Raymond E. Seltzer, agricultural economist, titled "Possibilities of Paperboard Containers for Fresh Grapefruit." A month later the Vacuum Cooling Co. of California made its first commercial dry-pack shipment and paved the way for the use of corrugated cartons for moving lettuce. These were, in point of time, the first outward and visible signs of a trend that had started about the time World War II ended and which has since continued with ever-increasing vigor.

In the 1920s the wooden box gave way to the corrugated carton for shipping canned and glass-packed foods. Now the long-standing supremacy of the wooden box for shipping domestic perishables has been similarly challenged. There are two basic factors behind this trend. The major impelling factor has been the desire on the part of growers and shippers to offset increasing labor costs by developing more economical methods of transporting perishables. The major enabling factor was the wartime development of waterproof glues, in response to the Government's interest in water-resistant containers for shipping supplies to troops.

This year some 90% of the California-Arizona lemon crop is expected to go into corrugated fibre boxes. Upwards of 40% of the lettuce shipped from these two states will probably follow suit. Estimates for the Northwest apple crop run about 25%. Around 10% of Arizona and California's oranges and a somewhat larger proportion of their grapefruit are expected to move in fibre containers. The trend is national, with Florida among the Eastern states particularly active in experimentation. Fibre containers for all of these products except apples are half-boxes, which are gaining rapid acceptance by retailers and consumers, and the wooden-box manufacturers have countered with a wooden half-box which is gaining increased acceptance.

Experiments on fibre containers for berries, plums, avacados, cherries, pears, tomatoes and almost all other fruits and vegetables have been vigorously under way for some time and more recently laminated wood and kraft paper boxes have been tested. Highly diversified experiments are being conducted by container manufacturers, private and public organizations and some individual shippers. Some of these have been made public, but many others are being carried on secretly. The Western Fresh Fruit & Vegetable Container Institute is understood to have made extensive

FIELD PACKING is the rule where corrugated containers are used for the shipment of lettuce. This year 40% of the California-Arizona lettuce crop is being handled in this way—minimum handling, fast cooling and quick shipment.

PHOTO, WESTERN GROWERS ASSN.

studies, but has released no information on their type and scope.

Current researches involve not only new types of containers, but also related investigations which extend into the fields of agricultural engineering and plant physiology. New methods for packing produce in these new containers are being investigated and established data on produce shipping temperatures and ventilation are being re-examined. These studies have resulted in such advances as volume-fill methods for lemon boxes and at least tentative evidence that the keeping qualities of lettuce are improved by unventilated containers.

In general, shippers have found fibreboard containers to have numerous advantages. The most important are that they are cheaper than wood, lighter and easier to handle. The weight factor is of importance in shipping economy. The ease in handling is said to be a major advantage at retail outlets.

On the other hand, there are also general disadvantages. Fibreboard lacks the strength of wood and this is particularly important in stacking cartons. In spite of waterproof adhesives, fibreboard, as manufactured today, will lose rigidity if exposed to prolonged moisture.

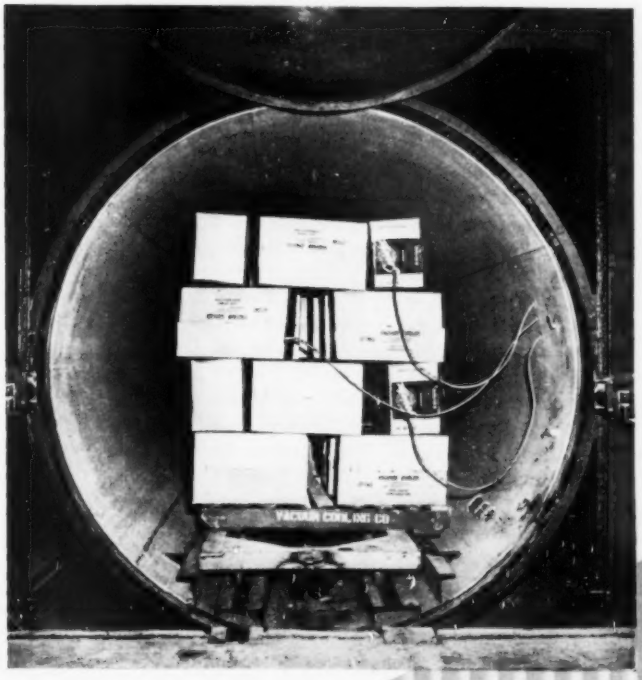
The wood-kraft box, not as yet in volume production, is said to overcome these two drawbacks and is expected to be mid-way in price and weight between conventional wooden boxes and fibreboard boxes. Made of one layer of wood veneer sandwiched between two layers of kraft paper, it shares with fibreboard the advantage of readily accepting printing, giving better display to brand name and trademark, and eliminating the need for pasting on end labels.

In the course of grapefruit shipping studies made in 1950, Mr. Seltzer polled a number of Salt Lake City retailers on their reactions to fibre containers. Nine out of 12 interviewed approved of them and the reasons they gave for their preference are interesting because they are typical of the opinions expressed generally by proponents of fibre boxes for not alone citrus fruits, but other produce as well. The reasons were:

1. Lighter, faster, easier to handle.
2. Easier and faster opening.
3. No nails or splinters to injure employees. (This has also been found an advantage to packing personnel.
4. Less mess in opening.
5. Good carry-out box—wood splinters and nails in wooden box tear customers' car upholstery.
6. Fruit arrives in better condition in paperboard box—sharp edges and pressure lidding of wooden box damages fruit.
7. Box will not split or break if dropped.
8. Easier to dispose of—wooden boxes must be carried back to store room. (On the other hand, some retailers prefer wooden boxes because they have a salvage value.)
9. Most other products arrive in paperboard.

Lighter containers reduce shipping weights and should afford economies to the shipper in the long run. At present most Western produce carried by rail moves under estimated billing weights, rather than actual weights. With the exception of lettuce, these estimated weights generally have not been altered to reflect the tare advantage of the fibre container. However, in the case of lettuce, the empty wood half-crate weighs about six pounds. The fibre carton of the same size weighs about two pounds. This tare-

VACUUM COOLING has made corrugated containers practical for lettuce because it permits shipment without icing. Here palletized cartons are in long vacuum tube at Vacuum Cooling Co.'s plant, ready to be drawn down to 33 deg. before entering refrigerated rail car.



BETTER DISPLAY of brand name through colorful printing is one point favoring fibre for citrus. This Sunkist box won a first prize in Fibre Box Assn. competition. Note pallet stacking of cartons 11 high without crushing.

PHOTO, INTERNATIONAL PAPER CO.

PHOTO, FOOD MACHINERY & CHEMICAL CORP.

BULK FILLING of lemons into corrugated half-boxes is speeding shipments and cutting costs. This year 90% of the lemon crop goes in fibre. At the Seaboard Lemon Assn., Oxnard, Calif., eight automatic fillers like the one illustrated above handle from 14 to 24 cartons per minute.

weight differential is partially reflected in estimated weights, which are 40 lbs. for the packed wood crate and 37½ lbs. for the carton.

Citrus fruits

The fibre carton for fresh produce has thus far had its greatest success in the shipment of lemons. In 1952 more than 60% of California and Arizona lemons were shipped in fibreboard half-boxes and the estimate for this year is above 90%. According to Mr. Seltzer, the use of fibre containers by Arizona citrus-fruit packers results in a saving of approximately 10 cents per whole box.

The fibre half-box itself costs Phoenix packers about 24½ cents, according to Mr. Seltzer, which is equivalent to 49 cents for a full box. The average cost of a full-size wooden box is about 55 cents. Thus there is about six cents saving in actual container cost.

"A further saving which results," states Mr. Seltzer, "is in the reduced weight of the paperboard container. A wooden box weighs eight pounds; a paperboard box of similar capacity size weighs four pounds. Since freight from Arizona points on citrus will average nearly one cent a pound, this means a saving of four cents a box on transportation costs. Additional savings may be possible through the use of the paperboard box as a result of greater efficiency in packing-house operations. . . .

"However, there is another aspect that must be considered in deciding upon the advantages of the paperboard box and that is with reference to the price received for the fruit packed in the two containers. With reference to lemons, it has been the experience of the industry that fruit packed in the paperboard cartons and sold at auction markets has at times commanded a premium of from 20 cents to as high as 60 cents per full box equivalent. . . . However, it should be noted that on f.o.b. sales and on consigment sales no difference was made in the price of the fruit packed in the different containers."

In a 1950 report on marketing grapefruit[1], Mr. Seltzer estimated the per-box saving on grapefruit packed in fibre cartons to be 15 cents. This included savings on container (12 cents), freight (2½ cents) and packing-house operations (½ cent).

Improvement of efficiency of packing-house operations with fibre boxes has been studied extensively in California by Dr. Roy J. Smith, Associate Professor of Agricultural Economics at the University of California at Los Angeles. In conjunction with the Citrus Industry Research Assn., Dr. Smith has developed a highly mechanized low-cost packing system.

"The cost for the old-fashioned packing system for lemons has been close to 25 cents per standard box," Dr. Smith reports.[2] "The cost on oranges has been from 15 cents to 18 cents per standard box, depending on the particular packing house involved. The cost under the new system for either variety may be as low as three cents per standard box.

"The elements of the system are a new container; fruit-sizing equipment; box-filling equipment and settling or shaker devices.

"The new container is a corrugated paper box of one-half standard volume. . . . From the standpoint of mechanical packaging, the fibre carton has several advantages over the wooden box. A single-compartment box, it can be handled easier in filling.

"The board material is resilient and not abrasive; consequently, fruit can be rolled into the box with little chance of damage. The pack is level, with no crown to be built on it and with no lid to be pressed onto the fruit. No wraps are required as the tight box protects the fruit from shrinkage. . . . Fruit condition on arrival is improved.

"Labor costs are lowered for retail units. Not only are the boxes much easier to handle, but also there is no fruit to unwrap."

Byron Showers, manager of the Arizona Citrus Exchange, Phoenix, while recognizing that fibre citrus containers will not stand high stacking and that they "melt" under moisture, nevertheless reports favorably upon them. He states that with fibre cartons, handling and shipping injuries to the fruit are reduced and that he does not anticipate future purchases of wooden lemon boxes by his organization. He is, however, interested in future wood-kraft developments.

During the past several years Mr. Showers has worked with one of the aluminum-foil manufacturers[3] in research on shipping citrus fruits in foil-lined fibre containers and favorable preliminary results have recently been announced. Contrary to previous theories on the subject, it was found that citrus fruits in unventilated foil-lined containers apparently can be shipped and stored at ordinary temperatures for as long as 60 days without adverse effects on weight, appearance, quality and flavor. The fruit was not individually wrapped. It is anticipated that the additional cost of the foil can be more than offset by elimination of refrigeration expenses in transit and during storage.

[1] "Desert Grapefruit Goes to Market," Agricultural Experiment Station, University of Arizona, Bulletin 230.

[2] "New Low-Cost Packing Systems for Citrus Fruits Are Developed," by Dr. Roy J. Smith. *Citrus Leaves*, Nov., 1952. " 'Volume Fill' for Citrus Fruits." *The California Citrograph*, Oct., 1952.

[3] Reynolds Metals Co., Louisville, Ky.

The carton used in the experiments is described as a glued fibre container with a 0.00035-in. layer of aluminum laminated to the interior. Elimination of icing when pre-cooled fruit is shipped in this insulated box gives savings on shipments of Western citrus fruits to Eastern and Midwestern markets of 6 cents on each two half-box cartons in winter and as much as 15 cents in summer, according to the aluminum company's studies.

Unexpectedly, it was discovered that grapefruit stored in foil-lined containers at between 70 and 90 deg. F. deteriorated after removal from the carton at retail outlets more slowly than that stored at the conventional lower temperatures.

Fibreboard boxes—or their inner liners—for shipping citrus fruits have in the past been treated with a diphenyl compound which has been found successful in inhibiting mold. However, studies completed early this year by the Stanford Research Institute have indicated that diphenyl may have sufficient toxicity to be classified as poisonous or deleterious under Section 406 of the Federal Food, Drug and Cosmetic Act. A final decision is pending. Not all citrus shippers believe diphenyl necessary to the inhibition of mold, however; many are now shipping citrus fruit successfully in untreated cartons. Others look toward aluminum-foil linings to prevent mold spoilage in the event that diphenyl compounds are prohibited.

Another method of inhibiting mold and at the same time retarding dehydration and shrinkage of the fruit is wrapping each fruit in a loose, pillow-type wrap of thin Pliofilm. Machinery has been developed to do this automatically at high speed. Pioneered by the Escondido (Calif.) Lemon Assn., after research by the Citrus Industry Research Assn., this method has attracted considerable attention.[4] Escondido has been using fibre half-boxes for these lemons.

Lettuce

Fibre cartons have brought about a revolution in the Western lettuce industry. The conventional method of handling lettuce for interstate shipments has been as follows: Cut the heads, load them into field trucks, take them to packing sheds, pack them with about 30 lbs. of crushed ice in wooden crates lined with waterproofed paper, close the crates with a lidding machine, load crates into refrigerated cars and blow crushed ice over the top of the shipment. Re-icing en route is often necessary.

Prior to the autumn of 1948, when the Vacuum Cooling Co. sent out its first commercial shipment, this was the standard method used for interstate lettuce shipments. Wood was the only practical material, since anything less durable would disintegrate under the moisture. The development of vacuum cooling, however, eliminated the need for icing and allowed the fibre carton to come into the picture. Many wooden crates of lettuce are now shipped dry after vacuum cooling, but the trend is increasingly toward the use of fibre cartons in conjunction with vacuum cooling. Today there are in California and Arizona more than a dozen vacuum-cooling plants constructed by the pioneering company and by the Gay Engineering Co. of Los Angeles.

No standard method for handling lettuce for vacuum cooling has yet been established, but the prevalent one so far worked out involves field rather than shed packing into corrugated cartons usually holding 24 heads. As practiced by Bud, Inc., of Salinas, Calif., this consists of taking knocked-down cartons into the field on trucks equipped with staplers and setting up the boxes as needed by the packing crews. After cutting, the lettuce is packed directly into the cartons, which are placed on metal "humps" which slant them so they are easier to pack and also keep them free of field dirt. As each carton is packed it is stapled closed, ready to be stacked on a pallet. Truck loads of palletized cartons are taken from the field to the vacuum cooler. Still on the original pallets, the cartons are moved by fork-lift trucks to a long dolly which holds half a carload of lettuce. The dolly is then run into the vacuum "tube," a cylinder about 50 ft. long. The door is closed and the vacuum is pulled. By evaporation of moisture within the lettuce itself, its temperature is brought down in about 20 minutes to between 33 and 36 deg. F. The dolly is then rolled out of the tube and the cartons loaded onto a conveyor which takes them directly into a refrigerated but not top-iced car.

The entire operation, from field to car, can be accomplished within a few hours, far more speedily than by the conventional method. The lettuce is handled only once. Top icing is eliminated. Refrigerated cars for shipping dry-packed lettuce must be equipped with fans for keeping air in circulation, however, and there is at present a limited supply of such cars, which puts a ceiling on the amount of dry-packed lettuce which can be moved.

Another method of field packing—usually done at night to take advantage of nature's cooling—involves the use of printed aluminum foil laminated to kraft paper as a liner for conventional wood crates.[5] Sometimes

(This article continued on page 210)

[4] See "Film-Wrapped Lemons," MODERN PACKAGING, March, 1953, p. 98.

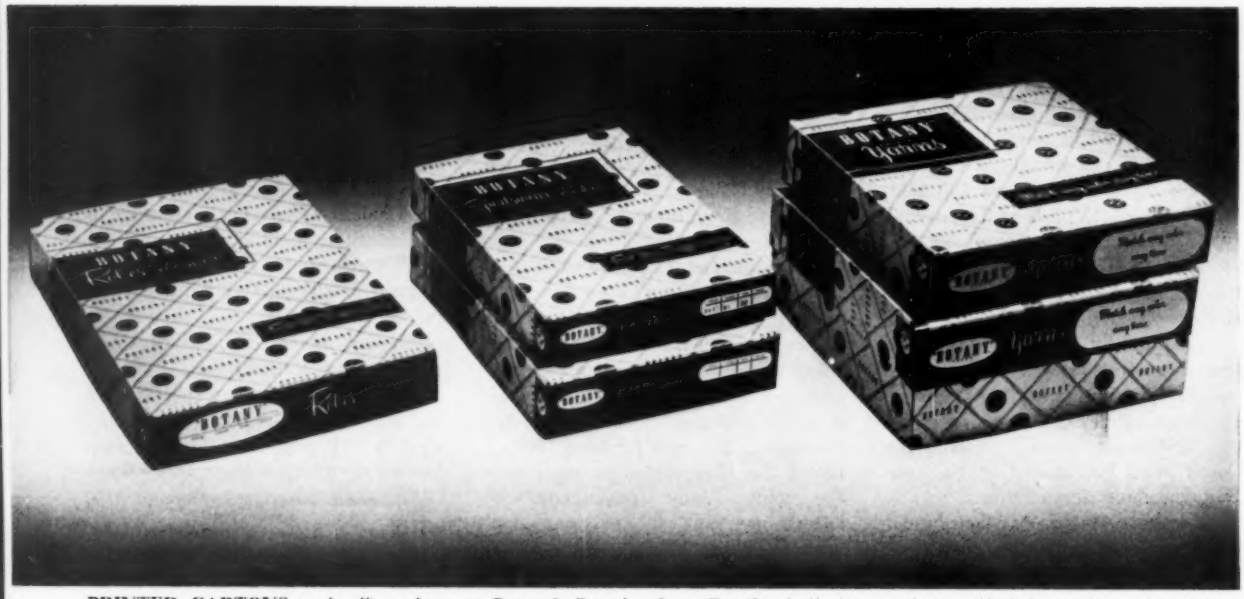
[5] See "Foil Liner for Lettuce," MODERN PACKAGING, Dec., 1952, p. 130.

PHOTO, REYNOLDS METAL CO.

FOIL-LINED CARTONS raise exciting possibility of shipment of citrus without refrigeration or ventilation, saving up to $70 per carload on ice alone. Test shipment like this one of grapefruit being examined at Louisville have kept perfectly up to 60 days.

APPLE BOXES of corrugated are catching on in the Northwest. This three-color box shows how printable surface can combine brand name and identity, opening and handling data and "sell" copy.

PHOTO, KLEINFELDER CONTAINER CO.



PRINTED CARTONS pack all products at Botany's Passaic plant. Family similarity can be modified for each product group. Background design shows how trademark is retained as decorative element combined with repeated use of Botany name.

Clinching the pre-sell

Botany Mills carries its national advertising messages through to the package for pay-off recognition

What makes a company spend thousands of dollars to redesign its packages? Sometimes the old packages still look pretty good. The outsider wonders, "Why the change?"

There is of course one basic reason —sales. But only after something is known about a particular company's promotional program is the effectiveness of the package change fully understood.

An interesting example is the two-year redesign program just completed by Botany Mills, Passaic, N.J.

The trade name "Botany" is almost universally associated with quality woolen yarns and fabrics. It also stands for an extensive line of finished end products: sport shirts, robes, slacks, scarves, socks, neckties.

In spite of strong national advertising, however, Botany executives felt that the buying public was not fully brand conscious of these finished end products at the point of sale. Former packaging, while clean and pleasant in appearance, fell short of achieving the brand and product recognition which the company was attempting to pre-sell in advertising.

What was needed was a stronger, coordinated design that would say "Botany" on the stock shelf, "Botany" on the counter, "Botany" in the display windows and "Botany" to the eventual purchaser. The company has achieved this. Wherever possible it is carrying the selling messages used in the advertising right to the product via all supplementary package devices—bands, tags, tickets and labels—so that the consumer sees at a glance, for instance, that Botany neckties are "Wrinkle Proof Forever," that with Botany socks you "walk in comfort" —the same slogans made familiar by their advertising.

An independent designer worked closely with an executive committee made up of Botany's sales manager, advertising manager, production manager, purchasing agent and advertising agency in developing a complete, coordinated line of packaging.

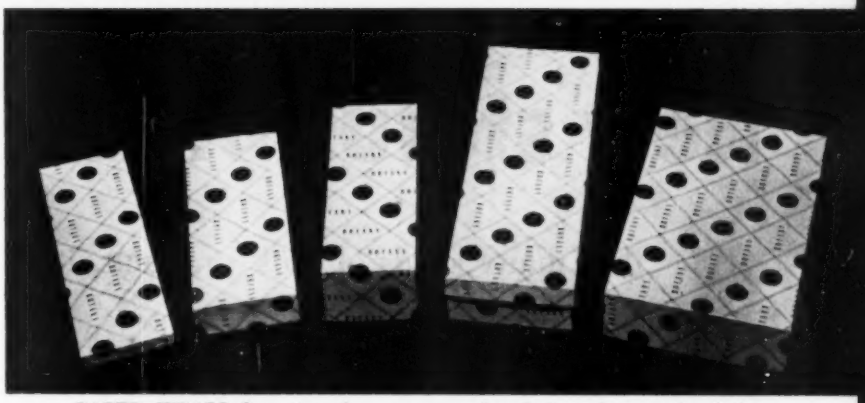
The two main objectives were (1) to establish stronger dealer and consumer recognition for Botany branded end products and (2) to develop the entire point-of-sale presentation for each Botany product so that every part of the package and allied material would aid in making a self-selling unit.

The program included a simplification of the company's old and long-established trademark, which is now used as a decorative element in the basic design alternating with the word "Botany" in diagonal squares. This basic motif in dark blue and yellow now appears on all folding boxes, wraps for set-up boxes and tissues, so

that the name Botany is always prominently in view. It is further strengthened on cartons by strips where the word "Botany" is used in large lettering along with the product name.

Most interesting was the careful attention given to package components: price tags, rider tags and bands. Almost every one of these features some quality of the product such as "washable," "wrinkle resistant," "easy to pack," etc. The band around the sports shirt calls attention to "9-point custom tailoring," with a bull's-eye describing each point. This supplies essential self-service data.

The complexity of Botany's packaging called for careful consideration of technical, purchasing and cost factors in the development of a suitable design program. Botany's products are manufactured at various points scattered throughout the country. Transportation costs and convenience required that many of the packages be purchased in local areas. To assure uniform package identity, all products not packed at Botany's main Passaic plant are packaged in set-up boxes, locally procured, but with standard overwraps supplied from a central printing source. Most of the products packed at Passaic are packaged in folding boxes, which can be printed with product data as required.



PAPER WRAPS for set-up boxes are purchased through central printing source, but applied to boxes in a number of box-making plants. This assures uniformity of design and effects many economies in package production.

CREDITS: *Design program, Gerald Stahl Associates, 12 E. 46 St., New York 17. Yarn cartons, Robert Gair Co., Inc., 155 E. 44 St., New York 17. Shirt cartons, Robertson Paper Box Co., Inc., Montville, Conn. Robe cartons, Alford Cartons, Industrial Ave., Ridgefield Park, N. J. Set-up box wraps, Charles W. Williams & Co., 303 Lafayette St., New York 12. Tissue inner folds, Whiteford Paper Co., 420 Lexington Ave., New York 17. Bands and tags, Berger & Gorin, 151 W. 26 St., New York 3. Tie bands, Foxon Co., 236 W. Park St., Providence 1, R. I.*

SUPPLEMENTARY PACKAGING—tags, bands and tickets—all carry principal selling points featured in advertising right to the shopping counter. Note slogan on band for socks, "walk in comfort," and ticket on tie that states "Wrinkle Proof Forever."

New status of the film liner

For many kinds of bulk products, it offers convenience, cleanliness and lower costs, with a wide choice of containers

The shipper of chemicals, foods and scores of other products who thinks of packaging in terms of product protection, freedom from contamination, complete product recovery, low container cost and minimum shipping weight is today thinking of a container lined with polyethylene or other plastic—if he is not in fact already using one.

It would be difficult today to name an important bulk product, liquid or dry, that is not, to some degree, being shipped in a fibre or metal drum, a carton or a bag lined with a plastic film. The expanding popularity of the film-lined shipping container is one of the most important developments in shipping packaging during the last several years.

From the sure foundation of experience, a wealth of information can now be passed on to the shipper so that he can properly evaluate his own activities and opportunities in this direction.

Some of the developments are just a matter of degree, such as the continually increasing use of film liners in drums, both metal and fibre, for both solids and liquids. Some changes are refinements of earlier methods—contoured or tailored liners, for example, being used in all types of drums and even in the widely used, low-cost corrugated carton. There are mechanical advances, such as improved heat-sealing techniques for production-line packaging. And there are brand-new ideas—in liners, in containers and in their product applications.

Why a liner?

Liners have, in their young life, demonstrated an inexpensive way to contain difficult items such as dusty, corrosive, volatile and sticky products.[1]

With polyethylene liners, 100% product recovery is assured even with such sticky products as automobile undercoatings and adhesives. This is because no effective adhesive for polyethylene is known; therefore, even the tackiest substance can be completely removed from the film without much difficulty.

Customer convenience and economy are uppermost in many applications like this where it would otherwise be necessary to scrape the drum for complete removal of the product. In other instances the unique chemical inertness of polyethylene eliminates the difficult problem of reaction or corrosion caused by chemical products coming in contact with container walls.

Among the early applications of film liners—and moving into top posi-

PHOTO, BEDWIN CORP.

LIQUID TIGHT, the polyethylene liner with a round, set-in bottom is being increasingly used for the shipment of liquids and more-expensive kinds of powders in fibre drums. The lap-over seal of the bottom section is said to give extra strength to the polyethylene liner.

PHOTO, DIAPHANE CORP.

CIRCULAR BOTTOM of this polyethylene liner fits the standard fibre drum with no troublesome creases, folds or waste space. The drum, of course, can be re-used. These liners are used for a number of products in drums ranging in capacity from 15- to 55-gal. sizes.

CREPED KRAFT BAG makes an adequate shipper for non-fat dried milk when polyethylene lined. Bowman Dairy bag holds 100 lbs.

PHOTO, DUBETHENE CORP.

[1] See "Polyethylene For Shippers," MODERN PACKAGING, Oct., 1950, p. 133.

tion today—are frozen meats, meat in brine, dried-milk products, whey products, bakery supply fruits, cake mixes, hygroscopic chemicals, plastic resins, wetting agents, adhesive materials, corrosives, animal feeds and pharmaceuticals.

Shipment of liquid products in large-sized fibre drums lined with polyethylene, formerly regarded with skepticism in some quarters, is now looked upon with renewed confidence. A pioneer in this field, the Rohm & Hass Co.,[2] has been making daily shipments of non-flammable, non-corrosive liquids in 400-lb. quantities from its Philadelphia and Bristol, Pa., plants. A polyethylene liner, with one of the new cylindrical bottoms, is used along with a paper boot to guard against pinching, undue stretching and other damage in the bottom of the drum.

With the cost of fibre at slightly more than half that of new standard steel drums, the economic incentive is obvious. There may be a real saving, as long as the product can be shipped safely. It should be made clear that this price advantage is lessened by the re-use value of steel drums and also by the availability of a new, less-expensive, non-returnable drum of light-gauge steel. The advantages of each and the choice of one or the other can only be determined in relation to each particular shipping problem.

Now that steel is once more plentiful, reduction in tare weights and the resulting savings in lower handling expense, trucking and other transportation costs are the principal recommendations of the fibre drum.

A typical example of savings realized on shipment of a chemical from Baltimore to St. Louis is shown by this breakdown:

Rate . . . . . $1.20 per 100 lbs.
Quantity . . . . . 200 containers per car

Former container tare weight per car (metal drums) . . . . 10,000 lbs., or $120

Fibre drum container, plus liner; tare weight per car 4,100 lbs., or $49.20

Total saved per car on tare weight . . . . . 5,900 lbs. or $70.80

Packagers who use liners in metal drums have the advantage of re-use without the expense of reconditioning the container. It has been estimated, for example, that reconditioning a 55-gal. steel drum costs from $1 to $1.50. By using a liner (cost about 32 cents each for 2-mil thickness), this expense is generally eliminated—or at least made much less frequent. Expensive equipment for reprocessing may be entirely unnecessary and, even considering the labor of inserting liners, over-all packaging costs may be considerably reduced.

Cylindrical vs. flat

A round-bottom polyethylene drum liner, initiated several years ago by a leading fabricator and being used by Rohm & Haas among other companies, can naturally be adopted for any product requiring liner protection, but because it is higher in cost than flat liners it has thus far been used mostly for liquids and for high-valued powder and paste products—particularly where product weights are heavy.

Shippers list several reasons for choosing a round-bottom liner. They point out that the liners are specifically designed to fit each container and, due to the absence of flexing and resultant abrasion in transit, have established a favorable record in shipping liquids and more expensive products. Avoiding one failure in 100, it is explained, can more than justify the extra cost involved. Furthermore, the extra strength of the cylindrical liner with its shear or lap-over, heat-sealed seam has opened the way for packagers to ship liquid products in lighter-weight, comparatively inexpensive fibre drums.

Several varieties of cylindrical liners are now available, from one which has a disk of polyethylene sealed to the body of the liner to one which consists of a fibre disk, inserted between two layers of polyethylene, forming the circular bottom. Such liners range in gauge from 0.0015—for smaller drums and less-corrosive products—to heavy 0.006 gauge for highly corrosive products. Most often they are used with drums ranging in capacity from 15 to 55 gallons.

Cylindrical liners are said to be easier to insert, chiefly because the mandrel required to install conventional flat liners is not necessary. Inserting the liner, without mandrel, is accomplished by merely sweeping it through the air to capture a certain amount of air, gathering the top together and using the air cushion itself as a mandrel. Not only is this method fast and effective, but it protects the liner from the abrasive action of a mandrel. Round-bottom liners are also said to avoid the creases which sometimes result in leaks and ruptures.

Cylindrical polyethylene liners are now used, for example, at the plant of the Davies-Young Soap Co., Dayton, Ohio, for loading solid soaps into 55-gal. steel drums. Aside from their ease of installation, the basic reason for using liners is to prevent contamination of the soap by the lacquer lining in

[2] See "Liquids In Film-Lined Fibre," MODERN PACKAGING, April, 1951, p. 181.

LINER FOR FRUIT, in either corrugated or wood box, is found to give longer life and better ripening. Ninth Street Skookum Growers use polyethylene liner for both cell packs and bulk packs.

PHOTO, BEMIS BRO. BAG CO.

VINYL LINER, specially plasticized with synthetic rubber, permits lard to be shipped in ordinary corrugated box at low cost.

PHOTO, GOODRICH CHEM. CO. AND B. L. KUSS & CO.

DETERGENT, kept free of moisture by polyethylene liner, is sold to housewives in economical 20-lb. institutional-size corrugated carton.

Technique for liquids in fibre drums

PHOTOS, BERWIN CORP.

ROUND-BOTTOM LINER is inserted without mandrel after sweeping through air to entrap air and gathering top like paper bag.

TOP IS FOLDED BACK down the side of the container and, after filling, lid is placed over a separate disk of polyethylene film.

LOCKING OF RIM gives a liquid-tight seal between the disk and the liner. Nothing but the polyethylene touches the contents within the container.

the drums or the drum metal. Davies-Young claims that the cost of the liners is more than paid back on this one point. Previously, the soap was shipped in drums with lacquer linings which would often chip, exposing the base metal. The liners are now used only with open-head drums and are not re-used.

One of the interesting new ideas in filling is found at Davies-Young. Filling the liners from kettles with comparatively large outlets, the company finds it expedient to use a pipe rig to exhaust air between the liner and the drum. The same sort of problem crops up in filling liquids. Other packagers make it a point to place a rubber tube between the liner and the length of the drum to bleed off any air pockets that might form and cause binding, waste space and slack fill.

Lower-cost outers

It is polyethylene's toughness and strength of seal that have given manufacturers the opportunity to use less-expensive outer containers for liquid and powdered products—not only fibre drums, but also corrugated and solid-fibre cartons and even bags.

Among the products frequently found today in these comparatively inexpensive shipping containers are powders and pastes demanding the ultimate in moisture protection and freedom from dirt contamination. Molding powders and other plastics resins—a case in point—are usually hygroscopic and ruined by foreign matter. At the same time, these products are in a highly competitive field where cost is narrowly eyed. The lowest-cost package—in this case the film-lined carton or drum—is naturally preferred. Economies of heat sealers which can close bags on a continuous-line basis also contribute to cost savings.

A highly novel, low-cost, expendable container has been adopted by Consolidated Products Co. (Division of National Dairy Corp.), Danville, Ill., for merchandising its semi-solid poultry feed. The carton, lined with polyethylene, has a removable side panel from which the poultry can be self fed without supervision.

Liners in corrugated cartons and wooden crates are enabling packers of apples and pears to extend storage periods without detriment to the fruit. In addition, packers have been able to reach foreign markets with a quality fruit at a later date after harvest than ever before.

Ninth Street Skookum Growers, Inc., Wenatchee, Wash., reduces moisture loss of pears with a polyethylene liner so that they may be marketed about 60 days later than a fruit packed without a liner. During cold-storage warehousing, the liner acts as a chamber for the effusion of carbon dioxide given off by the fruit, promoting more uniform ripening throughout the box.

Successful application of the liner has also been made in packaging apples, especially the Golden Delicious variety which is prone to shrivel, due to moisture loss, when held in storage for extended periods. As in the case of the pears, the liner serves as a moisture barrier to prevent dehydration of the fruit.

With the intention of saving customers storage space and giving them greater product protection, Wyandotte Chemicals Corp., Wyandotte, Mich., is marketing its line of cleaners in individual cartons, each with its own waterproof polyethylene liner to keep out unwanted moisture. The cartons, identified as "Dual-Paks," hold either 20 or 25 lbs. of the product and three of them are packed in a sturdy, three-color, easily identified case. Wyandotte estimates the new containers will reduce storage space needed by customers by more than 40% compared with the plywood drums previously used. This application suggests the possibility of carton liners spreading out to include big, economy-size packages of soaps and other products for sale to consumers.

A manufacturer of small electrical appliances is experimenting with polyethylene carton liners to prevent what is said to be an unfavorable chemical reaction between the sensitive chrome surfaces of the products and the sulphur content of corrugated kraft.

In this instance, the flexible polyethylene film also guards the surface of the product against scratches. It is interesting to note that among the newer applications for liners, they are not always used exclusively for their chemical or strength properties, but may also be employed for virtues not usually considered, such as soft surface characteristics. Better Arts, Barrington, Ill.—a prominent manufacturer of high-quality, hand-painted waste baskets and utility brushes—is experimenting with polyethylene carton liners to reduce chafing of the fine painted surfaces of these products against the corrugated container.

Depending upon their needs, users

can purchase flat liners for corugated cartons or can obtain those that conform to the shape of the carton.

Another low-cost combination is the polyethylene liner in a creped kraft bag, as used by some packagers of dry, non-fat milk solids. Bowman Dairy Co., Chicago, packs 100 lbs. of the product in a lined multiwall bag, gaining not only protection, but great savings in shipping and container costs. The Government has, as a matter of fact, specified this type of packaging for powdered milk packed in drums or paper bags.

The lined bag is sometimes used when manufacturers—such as the producers of malt, brewer's yeast and face powder—find the inexpensive bag strong enough to hold the product, but cannot risk contamination from paper threads. Numerous other similar problems, involving direct contact of the bag wall with the product, are being eliminated through use of a liner. An unusual illustration is offered by vitamin preparations, which are packaged when hot; they will adhere to the walls of paper bags, but will not stick to those lined with polyethylene.

Heat-seal closures

A drum, carton or bag liner can be closed by the simplest tying method or can be heat sealed, an advantage which influences many manufacturers to adopt an inner liner in the first place. A recent trend, contributing economies of its own, is in the direction of production-line sealing on a continuous basis. The speed and sureness of mechanical heat-seal methods are much desired by packagers and various types of band sealers designed for polyethylene film are commonly used.

With thin liquids, the twist-and-tie method of closure is seen by some packagers as having drawbacks. In the twisting operation, capillary tubes are formed which may serve as minute syphons, drawing off the liquid and defeating the liner's purpose.

An uncomplicated heat-seal method favored by a number of companies calls for first filling the liner and then heat sealing it except for a gap of about one inch. All residual air is squeezed out to prevent "water hammer" in shipment, whereupon the final seal is made. A factor of major importance in employing this method is the simplicity and performance of the heat sealer. Packagers express a preference for a portable heat sealer which can be regulated to exact heat, pressure and dwell time, and leaves very little to the imagination of the operator.

Heat-seal closures are commonly found in all types of containers using liners, but most often in steel drums, cartons and bags. With the fibre drum, some manufacturers feel that the disk closure method is preferable. This involves turning the upper part of the liner down over the outside wall of the drum, covering with a separate disk of film which laps over the side of the drum and finally closing with a tight header cover. This is said to be neat, fast and liquid tight.

Choice of films

When packagers think of drum liners, polyethylene film is usually uppermost in their minds. The workhorse of drum liners, its toughness (even at low temperatures), chemical inertness (a natural advantage for chemical products) and almost ageless durability and liquid-holding qualities give it an enviable versatility.

No one represents the film as suitable for every imaginable application and such shortcomings as do exist are being more clearly recognized by suppliers and users, particularly since wider usage is producing more experience data.

Some synthetic detergents, for instance, have been found unsuitable for shipment in polyethylene-lined drums. Corrosive or hygroscopic in nature, they require the type of protection offered by plastic film liners. But many of these detergents, being surface active or wetting agents, are likely to permeate and act upon polyethylene.

When hot materials are loaded into polyethylene liners, the temperature must be kept under careful check, for at 215 deg. F. the film becomes unusable, the walls weakening and sticking to the outer container.

Aware of these and similar shortcomings, suppliers, following the typ-

(This article continued on page 233)

For semi-solids in metal drums

PHOTOS, MERL MFG. CO.

SWISHING THE LINER—a round-bottom polyethylene type—to entrap air for easy insertion of contents is first step at Davies-Young Soap Co.

SPECIAL TRICK is use of simple U-shaped pipe to vent air between liner and drum while filling.

TOP IS GATHERED and closure attached. Product is raw soap, shipped to soap and toiletries companies.

Industrial packagers to Boston

88 exhibits, a technical short course and a competition to feature four-day SIPMHE conference and exposition

Attention of those whose interest lies in industrial, shipping and military packaging is turned this month toward Boston, where the eighth annual exhibition, competition and short course covering this phase of packaging will be conducted Oct. 19-22 by the Society of Industrial Packaging & Materials Handling Engineers at Mechanics Hall.

The SIPMHE is unique among packaging organizations in that it is the only association organized and conducted by packaging people strictly as individuals, rather than as company representatives. It is the nearest thing to a professional society in the packaging field. Started just after World War II by a group of industrial packaging engineers in Chicago and Detroit, it has branched out to include 16 chapters with a total of 1,500 members in most of the large industrial centers, including Boston, which is host to the annual meeting this year for the first time.

By reason of the high interest and varied program, this year's convention seems certain to outstrip all previous events held outside of the SIPMHE headquarters city of Chicago, according to C. J. Carney, Jr., managing director of SIPMHE. Attendance at the exposition last year was close to 8,000.

Tom W. Regan of the General Box Co., general chairman of the exposition, reports a total of 88 exhibitors at press time. Demands for exhibit space were so great that the original show area has been expanded to include 30,000 more sq. ft. of space.

Animation will be added to the exposition this year through a series of 20-min. demonstrations of materials-handling equipment and other equipment and supplies on exhibit. Demonstrations will begin at 1 p.m. with 5 to 10 min. between each one according to a strict schedule. The 40-by-85-ft. demonstration area will be located in the annex portion of the exposition area, close to the exhibits.

Mr. Regan reports that a number of industries, eager to present their sales stories at first hand to industrial-packaging and materials-handling engineers in the Eastern industrial area, have reserved space at the exposition for the first time.

This year's Boston location, overnight by train or only a few hours by air from most of the major industrial sections of the country, is expected to draw an unprecedented number of registrants. One early indication is the heavy advance hotel reservations, he said.

All three events will be held in Mechanics Hall, the technical short course opening Monday morning, Oct. 19, the competition being decided on Tuesday morning, Oct. 20, and the exposition opening that noon.

Short course

The four-day educational program, developed by the SIPMHE and sponsored by the Mechanical Engineering Dept., Massachusetts Institute of Technology, will include a wide selection of subjects selected to interest both junior and senior engineers. John W. Kraus of Thompson Products, Inc., Cleveland, is chairman of the committee and Prof. John E. Arnold is the MIT advisor.

The course, which attracted more than 800 registrants last year in Chicago, will be divided into two sections, one for those interested in the fundamentals of industrial packaging and the other for the more experienced industrial-packaging or materials-handling engineer who seeks advanced training in specific fields. Both elementary and advanced segments of the course will meet together in the closing sessions.

The elementary course is primarily intended for the person new to the field of packaging, for the person whose responsibilities are divided among packaging and other duties, for the person who never previously attended such an educational program and for the packaging engineer who wishes to bring himself up to date on developments.

The short course will run Monday through Thursday and those completing the program will be awarded a certificate. Registration fee for both courses is $25 for members, $35 for non-members. Admission to separate sessions of the advanced section is possible, but not in the elementary session which will be limited to 100 persons.

Competition

The annual competition, under the chairmanship of R. A. Mantz of International Harvester Co., Chicago, will be made up of entries from seven different divisions—corrugated or solid fibre boxes, nailed wood boxes and crates, wirebound boxes and crates, cleated panel boxes, general containers made from a combination of materials, and also cans, drums, bags, bundles and other types of packaging, export packages, and materials handling. Entries must be received in Chicago by Oct. 9.

Cash prizes and certificates will be awarded to the winning entries in each group. Winners will be announced at the opening of the exposition at noon Tuesday, Oct. 20, and awards formally presented at the annual SIPMHE banquet which will be held on Wednesday night, Oct. 21, in the Somerset Hotel.

In addition to the regular prizes, the Harold Jackson Trophy will be given by Wm. McGee & Co., New York, marine underwriters, to stimulate better export packing, and the Irving J. Stoller Award will be given by its namesake, president of the Fibleco-Illinois Corp., for notable development in interior packing.

SIPMHE officials report that the number of entries, accepted only from individuals and not from companies or organizations, are abreast of previous years and in some divisions ahead of those entered in any previous years.

EIGHTH ANNUAL INDUSTRIAL PACKAGING AND MATERIALS HANDLING EXPOSITION

MECHANICS HALL, BOSTON

OCT. 19-22, 1953

NAMES AND LOCATIONS OF EXHIBITORS

Acme Steel Co.	400-402
Aeroil Products Co., Inc.	319
Algene Marking Equipment Co.	206B
Alles Corp.	502
Allied Container Corp.	113B
Allied Research Associates, Inc.	124
American Box Co.	403
American Excelsior Corp.	206A
American Instrument Co.	103
American Tape Printer Co.	323
Amsco Packaging Machinery, Inc.	201
Angier Sales Corp.	210
Armour & Co., Curled Hair Div.	309
Atlas Plywood Corp.	101-200
Auto-Nailer Co.	115
Baker-Rauling Co., Industrial Truck Div.	405-7-9
Better Packages, Inc.	507B
Bischoff, Ernest, Co., Inc.,	902
Blocksom & Co.	301
C & D Batteries, Inc.	507A
Celotex Corp.	309A
Cleveland Container Co.	114
Clinch-Tite Pallet Co.	505
Continental Can Co., Inc.	100
Conveyor Specialty Co., Inc.	310
Craig Machine, Inc.	614
Dade Bros., Inc.	606
Davison Chemical Corp.	504
Derby Sealers, Inc.	700
Doughboy Industries, Inc.	211
Eastman Chemical Products, Inc.	302
Edison, Thomas A., Inc., Storage Battery Div.	206
Elberta Crate & Box Co.	410
Filtrol Corp.	307
Flow	521
Fox Paper Co.	109
Gair, Robert, Co., Inc.	116
General Box Co.	205
Gilman Bros. Co.	523
Globe Imperial Corp.	325
Gottscho, Adolph, Inc.	113A
Gould-National Batteries, Inc.	317
Greenwood Packaging Supply Co.	202-214
Greer, J. W., Co.	105
Hampton Mfg. Co., Industrial Tape Div.	515
Hinde & Dauch	304A
Hollingshead, R. M., Corp.	401
Impactograph Corp.	305
International Staple & Machine Co.	202
Jiffy Mfg. Co.	313
Kimberly-Clark Corp.	204
Langley Co.	408
Lewis-Shepard	108-108A
Loomis Machine Co.	615
Manpower, Inc.	509B
Mark'Andy, Inc.	509A
Markem Machine Co.	304
Market Forge Co.	208
Marsh Stencil Machine Co.	500
McDonough-Austin, Inc.	501
Melrose Packaging	702
Miller Wrapping & Sealing Machine Co.	201
MODERN PACKAGING	406
Moto-True Co.	315A-315B
National Metal Edge Box Co.	314
National Wooden Box Assn.	311
New England Industrial Truck, Inc.	118
Nox-Rust Chemical Corp.	404
Packaging Industries Ltd., Inc.	601-603
Packaging Parade	303
Pack-Rite Machines	300
Perry Packaging Corp.	600
Post Machinery Co.	210
Powers Wire Products Co.	304B
Queen City Tulatex Corp.	519
Rapids-Standard Co., Inc.	207A-207B
Rathborne, Hair & Ridgeway Box Co.	312
Reynolds Metals Co.	203
Rheem Mfg. Co.	800-801
Seamless Rubber Co.	503
Sherman Paper Products Corp.	308
Shipping Management	107
Signode Steel Strapping Co.	306
Simplex Packaging Machinery, Inc.	201
Speedry Products, Inc.	525
Stanley Works	213
Traffic Service Corp.	112
Union Bag & Paper Co.	701-703
United Can Co., Inc.	513
U. S. Plywood Corp.	111
U. S. Rubber Co., Royalite Div.	900-901
U. S. Steel Corp.	207
Universal Tube & Container Co.	113B
Weber Addressing Machine Co.	517
Wirebound Box Mfrs. Assn.	315
Wood Conversion Co.	321
Yale & Towne Mfg. Co.	102-4-6

Ever meet these meat problems?

PLIOFILM eliminates shrinkage –reduces mold growth and sliming.

NEARLY every meat packer has to face one or more of these problems. In every case, there's a PLIOFILM wrap with the right answer.

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PLIOFILM provides a really tight package that doesn't stretch or wrinkle.

PLIOFILM seals in flavor, makes a neat, attractive package.

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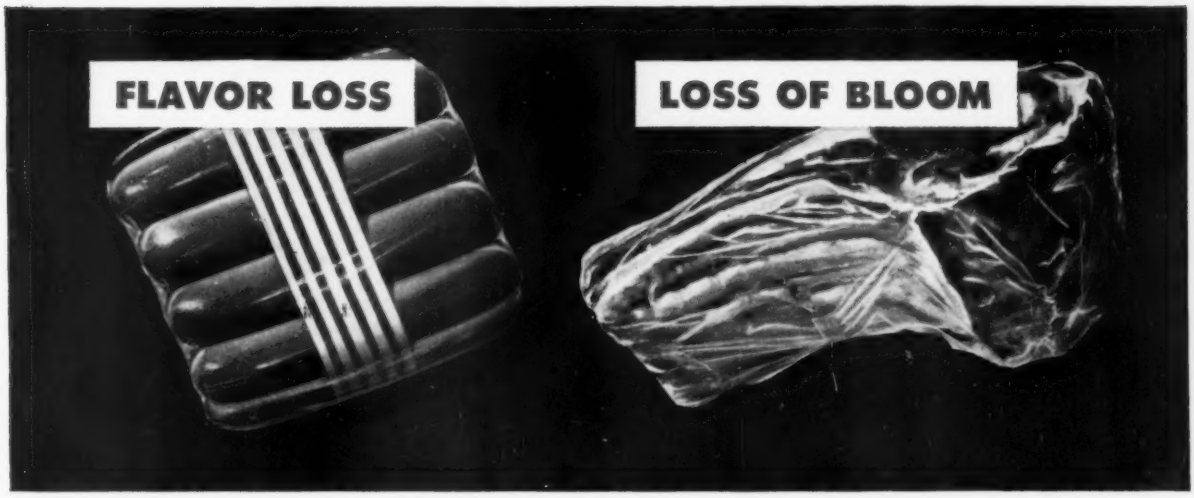

PLIOFILM's toughness and moisture-resistance assure longer shelf-life.

PLIOFILM is highly puncture-resistant, won't shatter or run. Virtually eliminates rewraps.

Pliofilm, a rubber hydrochloride—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

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Good things
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Pliofilm

3-way protection against air, moisture, liquids

We think you'll like "THE GREATEST STORY EVER TOLD"—every Sunday—ABC Radio Network
THE GOODYEAR TELEVISION PLAYHOUSE—every other Sunday—NBC TV Network

Economical cushioning

Haeger Potteries finds pads and blankets less costly in the end than hard-to-handle loose excelsior

CLEAN TO PACK and clean to unpack, typical Haeger shipping unit with pre-formed excelsior wraps and blankets has extra appeal for customers, who frequently re-use the pads. Breakage of fragile art pottery has been greatly reduced. Corrugated container is dark green with white trademark.

Manufacturers who think they have tough shipping problems might consider those faced by producers of vases, figurines and other types of art pottery ware.

Items of this nature are difficult to ship safely for several reasons. Primarily, the basic material of which they are made is relatively heavy and highly subject to damage by dropping or other impacts. Furthermore, many of the pieces, in the interest of artistic design, involve delicate projecting flower petals or other details which are even more easily broken than the main body of the item. Finally, due to the multiplicity of items made by some manufacturers, a typical order shipment to department store or gift shop may combine large and small pieces of varying weights and shapes which do not conveniently lend themselves to standardized packaging in a shipping container.

As the world's largest producers of art pottery ware, The Haeger Potteries, Inc., Dundee, Ill., has long wrestled with some of the shipping problems outlined above. For some time, Haeger had been utilizing bulk excelsior as a cushioning medium for shipments of its Royal Haeger line of pottery in corrugated shipping containers. This method, Haeger found, gave excellent protection, but left something to be desired in the way of packing efficiency, storage space and freight costs.

Under the direction of David Haverkampf, shipping foreman, the company began experimenting about a year ago with an improved type of package which has proved to have several important advantages. Fundamentally, it consists of the replacement of bulk excelsior by means of excelsior pads and blankets which are wrapped around the individual pottery items and also are used as a shock-absorbing liner for the corrugated shipping case. Haeger now uses this type of pack for both domestic and export shipments.

According to E. P. Nielsen, Haeger sales manager, adoption of the sealed, siftproof pads and blankets has given the company more compact shipping packages, lighter in weight, which help to offset rising freight rates and also ease the warehousing problems of Haeger customers—an important factor in view of present high costs of warehouse space. Collateral benefits of the revised packaging program include more efficient use of packing labor, making it possible to keep pace with orders even during rush periods, and exceptionally low damage losses.

Haeger customers are particularly enthusiastic about the new method, as evidenced by the many letters received by the company since the cushion-type pack was inaugurated. They like the fact that the shipments may now be unpacked without scattering loose cushioning material about the premises. Furthermore, the clean, non-sifting excelsior pads in which each item is wrapped take up little storage space and may be used again, if desired, in wrapping merchandise for shipment to their own customers.

"With the increased ratio of shipping costs to the actual costs of the merchandise," Mr. Neilsen points out, "we must make every effort to encourage dealers to handle our merchandise in preference to competitive lines. Any slight cost differential with a local supplier source is offset by the saving effected through the re-usable shipping pads."

Mr. Nielsen's statements are borne out by direct comparisons between the present and previous packing

methods. Under the procedure formerly used, in which the unwrapped pottery ware was nested in loose excelsior, the average shipping weight of one of the large corrugated containers was around 50 lbs., as compared to 38 lbs. for the corresponding container using excelsior pads and blankets. The reduced bulk of the pads has also, in many instances, made it possible to use a smaller box than would have been required with the bulk-excelsior pack.

Although the cost of the packing material itself, per piece of pottery shipped, runs slightly higher than the corresponding figure for the bulk-excelsior pack, labor cost per piece has been reduced, effecting a net saving of 2.3 cents per piece of pottery. During September, October and November, 1952, Haeger's savings on the more than 250,000 pieces of pottery shipped totaled $5,830.

The statistics on breakage are equally impressive. For example, during November, 1952, the Dundee plant shipped 67,201 pieces of pottery, representing 1,415 separate shipments. Based on reports from customers, damage to these shipments was confined to 267 pieces, of which 246 were broken, 18 pieces chipped and three cracked. This comprised only 0.39 of 1% of the total number of pieces shipped. It has been estimated that a damage figure of 5% is the customary experience with this type of merchandise.

In adopting the new cushioning method, Haeger took particular care to check results with its customers. Invoices were accompanied by a brief notice addressed to the receiving department, requesting the recipient to advise the condition in which the shipment was received, with a self-addressed postal-card form supplied for this purpose. Many companies complimented the pottery manufacturer on showing this interest in improved packaging.

The use of the excelsior pads and blankets has greatly expedited operations in the Haeger packing and shipping department. Previously, the company experienced difficulty at this point in keeping up with September, October and November orders for the Christmas trade. In some instances, orders were held over into January because they could not be packed and shipped in time. With the new packing method, packing can be kept up to date even during rush periods with no increase in personnel. It is estimated that a time saving of around 30% per order has been attained with the new-type pack.

The Haeger shipping department at Dundee is divided into two main sections by roller-type conveyors which carry the corrugated shipping containers to the packers and facilitate removal of the boxes after packing. Lamp packing is handled in one section of the department, while the other is devoted to the pottery items. These pieces are brought to the packing department from the finished-stock department on wheeled hand trucks with adjustable shelves which accommodate ware of varying heights. Use of the pads instead of bulk excelsior helps to keep the floor in the shipping department clean, providing a smooth surface on which the trucks may be moved without tipping.

Wrapping of the individual pottery items is handled at separate packing tables to which the trucks are wheeled. Five standard sizes of excelsior pads are used for this purpose —10 by 25 in., 14 by 24, 14 by 35, 20 by 35 and 28 by 35 in. All are of the taped-end type with 30-lb. kraft paper forming the outer envelope, producing a conformable wrapper. Each packer has a stack of the pads on hand at the packing table, along with supplies of shredded newsprint and a gummed-tape dispenser. Selection of the pad sizes and weights was based on a series of test shipments made when the program was inaugurated.

The packing procedure used consists of placing each vase, figurine or other item on one of the pads and protecting any projecting parts with a cluster of shredded paper. Then the pad is rolled and folded about the piece and the ends secured with gummed tape. All items in each order are similarly wrapped and kept together on one or more of the wheeled trucks. When the order has been completed, the truck is shifted a few feet to another packing station where the individually cushioned items are placed in the corrugated shippers, the largest and heaviest pieces being placed at the bottom of the package.

The most commonly used size of shipper for these orders measures 24 by 20 by 15 in. Other sizes used are 24 by 20 by 24, 24 by 20 by 9, and 18 by 11 by 11 in. All the containers are set up and stitched at one

(This article continued on page 228)

PACKAGING DEPARTMENT at Haeger's Dundee, Ill., plant, showing how trucks bring orders to wrapping tables, at right, thence across aisle to case packers. Note overhead conveyor for empty cases

WRAPPER cushions item in shredded paper, then wraps it in excelsior pad and seals it with tape.

CASE PACKER has simple job of fitting wrapped items in corrugated case, which has been pre-lined with blanket-type pads. Bulk excelsior formerly used was messy, bulky as well as time consuming.

Point-of-sale follow through

The same artwork that was used in making 24-sheet posters has been employed in creating the girl's figure for this point-of-purchase display promoting the Zonolite Co.'s insulating material. This technique makes a good follow-through at the retail level for the advertising seen by the consumer on billboards.

The figure itself is a separate die-cut piece which is hooked into the background card with easel tabs to give the illusion that the girl is actually kneeling on a plank in an attic.

The girl's right arm appears to be resting on an opened bag of Zonolite insulating material which is reproduced at the lower left side of the display card. Her left arm is raised and she appears to be holding in her hand a circular price patch pointing out the low cost of $67.60 for insulating the average attic. At the top, the shopper is urged to "Insulate now with Zonolite." The display measures 40 in. high and is scored for folding for mailing.

CREDIT: *Display, Philipp Lithographing Co., Milwaukee.*

DISPLAY

Flasher light changes bulb thief to happy possessor of spares

Sparking the General Electric Co.'s "Operation Light Up" campaign—this year's "anti-bulbsnatching" promotion—is this vividly expressive flasher display. When illuminated (as illustrated at the left), the eye-catching cartoon character is transformed from a self-conscious bulb thief (at right) into a sunny possessor of GE bulbs. The unit is expected to be a potent traffic stopper when displayed either in the retail store window or on the counter. A significant feature of the unit is the simple manner in which, through lighting, an effect of motion is simulated. When the unit is illuminated, an entirely different illustration is secured. This is said to be achieved with no costly extras. The display is to be used in conjunction with other point-of-purchase pieces during GE's all-out anti-bulbsnatching campaign this year to promote sales by having users keep bulbs on hand.

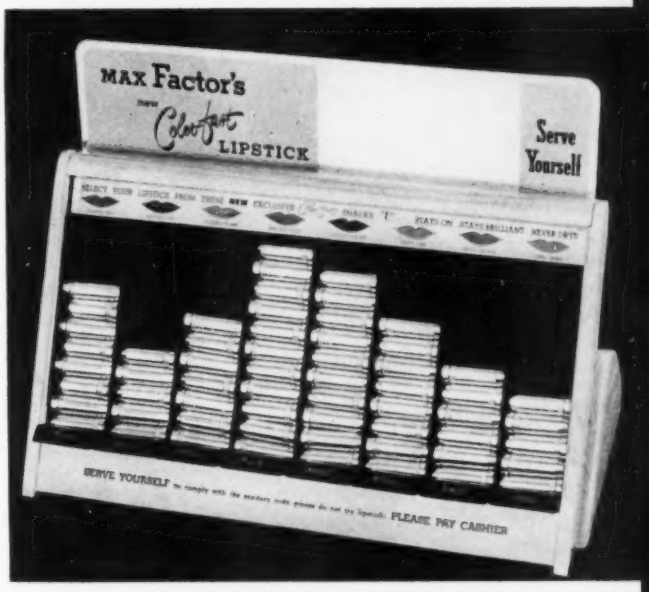
CREDIT: *Display, Forbes Lithograph Mfg. Co., Boston.*

Pull-lever dispenser ups lipstick sales 600%

Max Factor has introduced a new approach to lipstick merchandising with this patented lipstick dispenser designed for self-service selection. The dispenser operates on the lever-pull principle used in cigarette machines. The word "Pull" is imprinted on levers.

Across the wooden strip at the bottom is the legend, "Serve Yourself (to comply with the sanitary code, please do not try lipstick) Please Pay Cashier." A patented feature designed to overcome the pilferage problem is a lever in back of the unit that locks all pulls, permitting it to be used either locked or unlocked. The customer merely calls for the clerk when the pull does not operate; he unlocks the case and the customer serves herself. A 60-day test of pilot models in 21 California stores with the display unlocked for self service is said to have produced sales increases from 160 to 600%—a result reported to have made the pilferage aspect negligible.

CREDIT: *Display, Herbert H. Cooper Inc., Pasadena, Calif.*

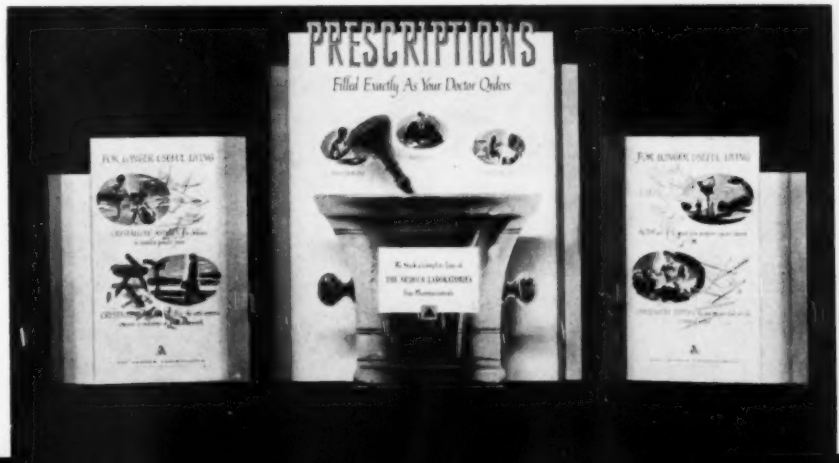


GALLERY

One electric light provides both illumination and motion

Armour Laboratories consumer-advertising campaign publicizing prescriptions, pharmacists, physician and research is being implemented by this dignified yet dynamic motion and illuminated point-of-sale display. The attention getter is the "bronze" pestle that swings leisurely back and forth, pointing to full-color wash drawings of pharmacist, physician and researcher. Motion is supplied by the heat of an ordinary electric-lamp bulb which also illuminates the illustrations as well as the word "Prescriptions." Movement is caused by expansion and contraction of a bimetal strip. An ancient bronze mortar and pestle from Armour's collection of pharmaceutical lore served as a model for the display. The two side display panels are reversible. The 30 by 40 in. unit folds to 30 by 30 in. for mailing.

CREDIT: *Display, Einson-Freeman Co., Inc., Long Island City, N. Y.*



New uses for VCI

A SIMPLE ENVELOPE, invisibly treated on the inside with a VCI chemical which slowly gives off an invisible vapor, is all the packaging needed to prevent corrosion of precision parts for jet engines. Grant Pulley & Hardware Co. reports losses sharply cut. Military specs now provide for this.

It has now been almost five years since MODERN PACKAGING first called attention to the packaging possibilities of volatile corrosion inhibitors—then generally known as "vapor-phase inhibitors."[1] In that time the volatile corrosion inhibitors, or VCI materials—representing a radical new concept of corrosion prevention for ferrous metals—have advanced through stages of skeptical interest to cautious acceptance to enthusiastic approval.

Military Specification MIL-P-3420 in 1951 first recognized VCI, but set limits on its use pending completion of exhaustive tests. With its inclusion this year on the Government's Qualified Products List and the issuance of Ordnance instructions and Navy Bureau of Aeronautics Specifications, VCI can be considered a full-fledged method.

VCI has spread rapidly through industrial and military packaging and is now beginning to appear in consumer packaging, aided by many new and convenient ways of incorporating the volatile chemical in packages and their components. Today no packager shipping products or parts of ferrous metals, subject to corrosion, can afford to overlook its possibilities.

Background

For those who are unfamiliar with VCI, a quick briefing may now be in order.

Vapors that have been found to inhibit or prevent corrosion derive from a certain class of chemicals, most familiar of which are dicyclohexylammonium nitrite and sodium nitrite urea.

As early as 1946 one of these, in crystalline form, was found useful in preserving aircraft engines. But the chemical was too expensive to use in this way for any but the most costly products. Then a practical method was found for coating minute quantities of the chemical on paper. This opened the way for widespread economical use.

Since both the coating and the vapor are invisible, the effect seems almost magical. VCI-coated kraft, placed in the package as a liner, wrapping, insert or wadding, very slowly gives off the vapor that handcuffs oxygen in the atmosphere and prevents it from combining with moisture to form rust. The vapor remains active for a long period of time, depending upon how it is used and how much is allowed to escape from the package.

Except for long-term storage requirements, the package need not be completely airtight. No dehydration procedure is required.

Wherever it can be used, this simple method has proved far preferable to the old rust-prevention system of dipping in oil or coating with grease, which then required greaseproof packaging and, upon unpackaging, a messy job of clean-up before the part could be used. Military packaging authorities were convinced of its value when Army Ordnance demonstrated that a rifle coated with grease required 2 hrs. and 45 min. for

[1] See "Vapor-Phase Inhibitors," MODERN PACKAGING, Dec., 1948, p. 147.

PHOTO, ROBERT GAIR CO.

TRADEMARKED PACKAGE is possible with VCI paper laminated to inside of printed folding carton; this roller bearing requires no grease or wrapping. "Do not remove from carton until ready to use," says the top label on carton.

PHOTO, ANGIER SALES CORP.

FROM SURGICAL BLADES, in die-cut VCI folder, it may be only a step to razor blades so protected. Without oiling and recleaning, blades stay factory sharp, Bard-Parker Co. says.

New forms, new applications of volatile corrosion inhibitors are simplifying shipping packaging everywhere

cleaning and re-assembly, while the same rifle in a VCI paper bag was ready for action in seven minutes.[2]

A simple coating on kraft paper is still the most commonly used form of VCI.

But now greater convenience and utility are being provided for the ever-widening industrial and consumer applications through the fabrication of such papers into bags, envelopes, die-cut folders, drum liners and carton liners. Impregnated wadding and cushioning pads and envelopes are available. VCI chemicals in crystalline and powder form—the latter applicable by spraying—are increasingly being used.

Army Ordnance has developed an ingenious method of protecting machine tools, even in outside storage. Loosely woven bags, filled with shredded VCI papers, are placed in gear boxes and other enclosed portions of the machine. The top and sides of the machine are then draped with VCI papers and the entire package placed in a plastic shroud. For longer-term storage, the bottom of the machine is also enclosed with the VCI paper.

Current applications

One of the pioneers in industrial use of VCI papers was the Electro-Motive Division of the General Motors Corp., La Grange, Ill., which today is using the material for 99% of its metal-parts preservation. No oil or grease is used any longer in packaging the 11 million pounds of parts shipped monthly from this plant. On just two items, Electro-Motive counts a saving of $100,000 a year.[3]

The biggest savings result from the use of lightweight, inexpensive fibre containers in place of heavy types of containers which were required when oil preservatives were employed.

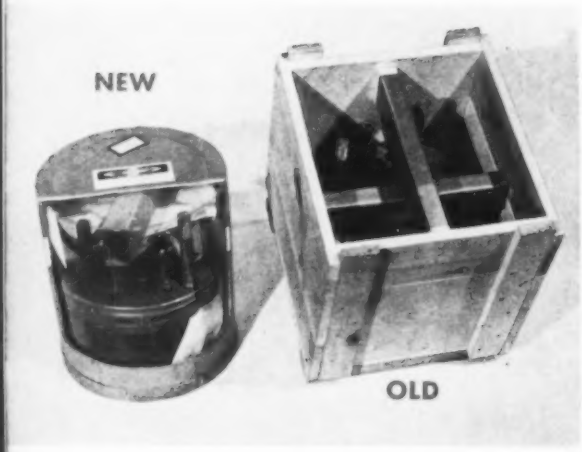
One of the first and simplest methods, still in use at the plant, involves placing a piece of the paper at each end of a 24-in. carton and, as an insurance measure, another piece at or around the middle of the part. This distribution of the paper is based on the fact that the vapor, which is

PHOTO, BERLIN & JONES.

INDUSTRIAL GAUGES, packaged by General Hardware Co. in VCI-lined kraft envelopes (along with size gauge), stay always rust free and ready to use. Gauge goes back in envelope for storage after the mechanic measures drill.

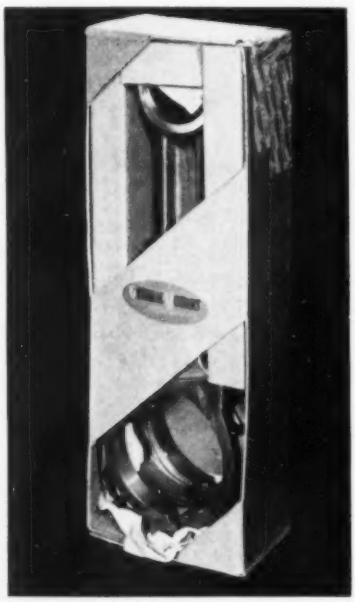
[2] See "VPI Goes to War," MODERN PACKAGING, July, 1951, p. 92.

[3] See "How VCI Cuts Costs," MODERN PACKAGING, Dec., 1952, p. 114.



ELIMINATING the grease permits use of fibre drum for cylinder head instead of heavy wood box, cutting shipping costs. New package is shown, left (with plastic window for exhibition purposes), with wads of VCI paper correctly positioned to insure continuous vapor protection.

Three ways that Electro-Motive uses VCI



IMMEDIATE USE of Diesel fork rod in emergency, without tedious degreasing, is a great advantage for railroads. Cut-away of corrugated carton, which replaced wood box, shows VCI paper at two ends; another piece would be placed at the middle of this 24-in.-long part.

SIMPLY INSERT the part in VCI envelope coated with foil and seal it with tape; it gives positive rust protection plus water-vapor barrier to injector bushings. The part is good for long-term storage in the parts bins of railroads.

heavier than air, will travel and protect for a distance of 12 in.

In several years' experience, General Motors has had few failures and those that did occur were usually due to incorrect use of the material.

Packagers generally blame most failures on incorrect application, such as plant operators inserting the paper at one end of a carton instead of distributing it at the correct intervals for complete protection. Actually, application of VCI papers is simple, as long as certain "rules of thumb" are kept in mind.

New VCI-lined cartons, envelopes and bags, now available from several suppliers, are taking some of the guesswork out of this kind of protective packaging and making it fit more smoothly into the semi-automatic and automatic packaging operations of the user.

Cartons

In one style of carton being used, the inner liner is a VCI-coated sheet laminated to the board with microcrystalline wax or other suitable adhesive. The lining paper is usually glassine or some other type of paper that is chemically correct so as not to have corrosive properties itself or adversely affect the VCI coating. A triple function is served when wax is used as the adhesive: it joins the VCI-coated sheet to the board, it creates an inert barrier between the board and the VCI-coated paper, and it also serves as an excellent water-vapor barrier.

All ferrous metals, from the tiniest hairspring to large pieces of machinery, which lend themselves to VCI packaging generally, can be placed in the lined cartons. Among the typical products so handled are aircraft and automobile parts, machine parts, textile machinery, hand saws, bearings, guns, files, precision gauges of all sorts, dies, scissors, chisels, home-workshop hand tools and gears.

Shipping cartons are primarily being used for these applications at the moment, but the carton development focuses attention on the possibilities for VCI-lined consumer cartons for home-workshop tools such as saws and files. The product would be protected in the carton until delivery to the customer who could, in turn, use it as a storage chest when not using the tool. Manufacturers do, however, foresee the need for consumer education. It would be nec-

essary, for one thing, to emphasize clearly that the chemical vapors will not eliminate rust that has had a chance to start.

Suppliers recommend that prospective users make field trial tests of VCI packaging under actual practical conditions. In the development of the chemical, countless tests were made under all types of conditions. But, suppliers caution, laboratory corrosion tests necessarily must be artificial or accelerated, since it is very difficult to simulate practical conditions in every respect.

Envelopes and bags

Packagers may wonder why something so simple in construction as a VCI-envelope has not been advanced earlier. Suppliers have spent a great deal of time developing a special adhesive, since regular types will not make permanent bonds with chemically active VCI coatings. Seams may appear to hold for a time, but when the adhesive dries out the seams pop. An acid adhesive, which might give an effective bond, would corrode the metal.

The envelope form offers obvious advantages for packaging small metal parts. Notations on the type of part, count, production date and other pertinent information can be made on the face of the envelope, simplifying inventory keeping and use. For adequate protection, airtight sealing is not required, but good closing is generally recommended.

The amount of VCI chemical required is the same no matter what the base weight of the paper. However, since there may be some loss of vapor through the paper, the heavier papers do give longer protection than the lighter ones if the envelope is stored in the open. When used inside another container, it has been found that the weight of the envelope does not make much difference.

A heavy, 60-lb. VCI envelope kept in a carton or a drawer has been found to give from one to two years of protection. An envelope within a heat-sealed polyethylene bag should give 10 to 15 years' protection, according to estimates.

Cushioned VCI bags, also available, offer protection not only against rust, but also against rough handling and damage in transit.[4] Supplied in several sizes, the bags are constructed to serve all industries for both shipment and storage of machine parts, electronic parts, precision instruments, automotive parts, watch parts, test gauges, hardware, laboratory equipment and valves.

PHOTO, SHELL OIL CO.

PLANT-TO-PLANT PROTECTION is very simply effected for rebuilt airplane engines shipped out by the Airwork Corp. by just dusting them with VCI crystals and covering them with a plastic-film shroud.

A type of VCI envelope has been adopted by the Grant Pulley & Hardware Co., Flushing, N. Y., to protect power-recovery turbine parts made under subcontract from Wright Aeronautical Corp. Grant saves on corrosion losses and on the time and expense of greasing parts, while Wright is saved the trouble of degreasing before assembly. Time savings are probably the greatest at Wright's end because the parts are selectively assembled, i.e., several may be tried out before one is actually used.

A retail distribution problem with small hardware parts, mostly for the home workshop, has been beaten by General Hardware Mfg. Co., Inc., New York, by using VCI-treated envelopes.

In a move to better familiarize the home repairman with the line, the company arranged counter displays in hardware and department stores. But when covered with a grease preservative, the parts were not inviting to handle. Products like T-tap wrenches and thread gauges are now inserted in VCI envelopes, completely eliminating the need for greasing. The company hopes to have, before long, a re-usable envelope that can be opened and closed with button and string.

In-plant uses

What appears to be a new, fertile field—intraplant as well as interplant packaging—is consuming large quantities of the papers for parts in production.

Nearly half of the VCI envelopes sold by one supplier last year never saw a final package. That is, they were used for both in-plant and plant-to-plant protection of parts during assembly and during regular storage.

Tote pans of units in production are kept rust free between operations by sliding the whole pan into large envelopes closed by button and strings. Large lots of raw steel parts, awaiting plating and finishing, are kept rust free in boxes and drums lined with the VCI papers, thus eliminating extra oiling and degreasing operations. Fairchild Instrument & Camera Corp., Hicksville, N. Y., uses treated envelopes to protect precision shutter mechanisms prior to assembly in aerial cameras.

Direct application

VCI protection, in other than paper applications, is still in its infancy and investigations are being pressed to uncover new uses. Oftentimes a part, because of its size or construction, cannot be completely protected by

[4] See "VCI-Lined Cushioned Bags," MODERN PACKAGING, July, 1953, p. 138.

the paper. Many manufacturers may as a result choose to use crystals, or to spray the product with the chemical in either powder or liquid form.

Direct application is bound to be accelerated by the introduction of easier dispensing methods, such as an aerosol-type can, being tested by General Motors, which can pressure dispense the chemical to any section of the most inaccessible part. No larger than the cans which dispense insecticides and so many other products, the new aerosol package, loaded with 50 gm. of VCI crystals, would free workmen of the complicated trappings characteristic of some spray guns. In liquid or powder form the chemical can also be squirted from polyethylene squeeze bottles. Spraying into a package just prior to closing might provide all the corrosion protection necessary, according to G.M.

Producto Machine Co., Bridgeport, Conn., set out to guard its die sets with coated paper, but found the operation too expensive for the diversified shipment of some 800 different sizes of sets. Crystals were found more practical for this particular operation. Before each die set is loaded in a wooden box, the bottom is sprinkled with the crystallized chemical, using a perforated can which operates much like a salt shaker. Twelve pounds, or $70 worth of the material takes care of a month's shipment of approximately 2,500 dies. Producto says. After applying this method to some 70,000 rust-free shipments, the company believes it to be the cheapest corrosion prevention found to date.

Several of the newer ways of applying VCI are being demonstrated at the La Grange plant of G.M.'s Electro-Motive Division. Small parts, formerly dipped in oil and wrapped in wax paper, are now inserted in convenient VCI envelopes. Examples include parts like bushings, valves and plungers. General Motors has arranged with a supplier to ship bearings in folding cartons lined with VCI. In crystal form the chemical is being applied to protect the Diesel engines of export locomotives; a 2% solution of the chemical is added to water which is used to flush the engine's cooling system, establishing positive protection.

Summary

Manufacturers have found, and suppliers make it quite clear, that VCI materials are not a panacea and can do their best work only when properly applied and their limitations understood. Basically, they inhibit the action of rust on ferrous metal and corrosion on aluminum alloys; they are not recommended for other nonferrous metals. The papers need not be in direct contact with the product, but any given piece should be no more than 12 in. away—the effective range of the vapor. VCI papers in a closed container will last longer. A hermetic seal is not necessary, but good closing is desirable to prevent rapid escape of the vapor. Shelf life up to several years can be obtained with special laminations and barrier materials; this, however, is best worked out in cooperation with VCI suppliers, who will carefully study the product and conditions of handling, shipping and storage.

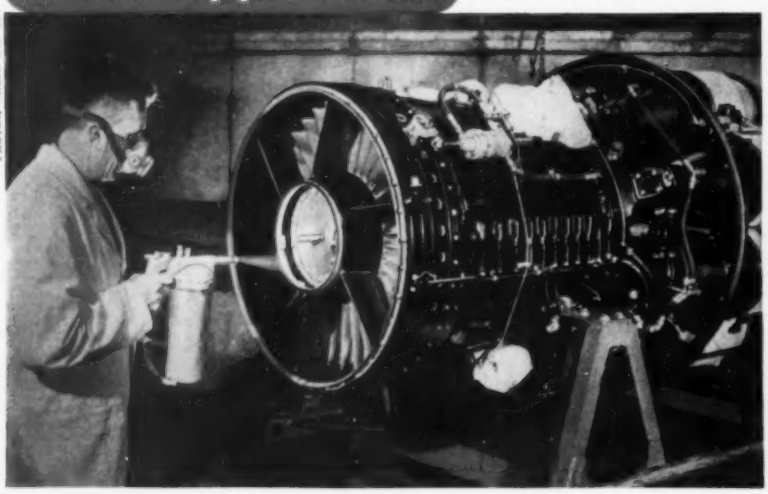
Metals removed from the wrapping are no longer protected. The chemical is reported to be non-toxic to humans. Under certain combinations of conditions it can damage nonferrous metals and Pliofilm (rubber hydrochloride); it will not affect other materials like rubber, fabrics, wood, leather, adhesives, paints, lacquers, inks. It cannot be used on silverware or on loaded photographic equipment because of possible film hazing. It works best at temperatures below 150 deg. F.

Acknowledgements

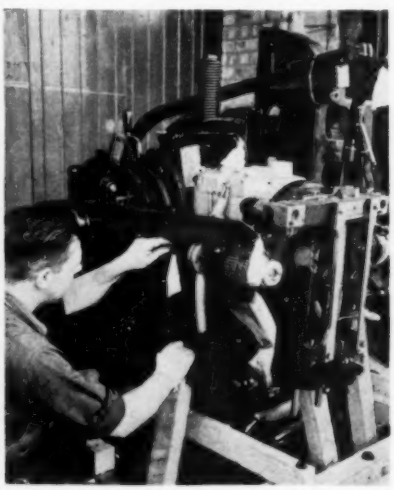
Information was contributed to this article by the following suppliers of VCI materials: Angier Sales Corp., Framingham, Mass.; Berlin & Jones Co., Inc., 601 W. 26 St., New York 1; The Central Ohio Paper Co., Columbus 16, Ohio; Robert Gair Co., Inc., 155 E. 44 St., New York 17; Nox-Rust Chemical Corp., 2429 S. Halsted St., Chicago 8; Orchard Paper Co., 3914-24 Union Blvd., St. Louis 15, Mo.; Shell Oil Co., 50 W. 50 St., New York 20.

Direct application

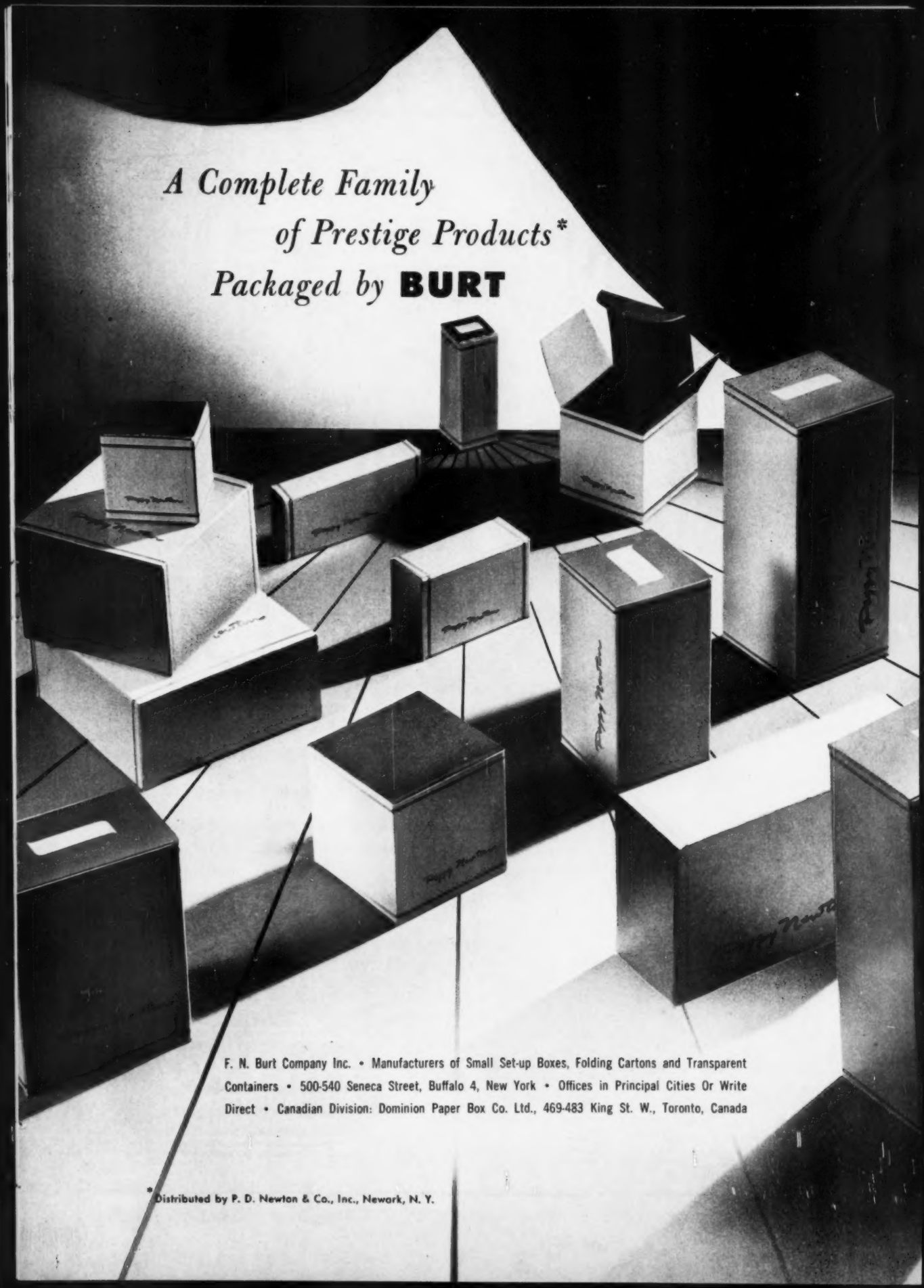
PHOTOS, SHELL OIL CO.



SPRAYING VCI, which may also be done with an aerosol can or a polyethylene squeeze bottle, is gaining favor for such complex assemblies as the Rolls Royce aircraft engine illustrated above. Containers may be similarly sprayed.



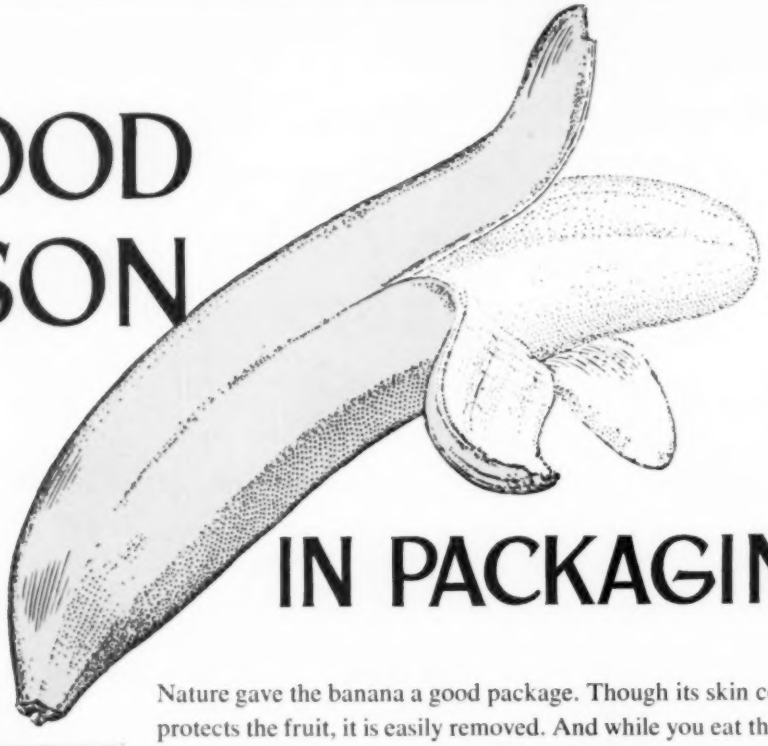
HANGING BAGS of VCI crystals at proper points protects linotype machine during storage and shipment in wood crate.



F. N. Burt Company Inc. • Manufacturers of Small Set-up Boxes, Folding Cartons and Transparent Containers • 500-540 Seneca Street, Buffalo 4, New York • Offices in Principal Cities Or Write Direct • Canadian Division: Dominion Paper Box Co. Ltd., 469-483 King St. W., Toronto, Canada

*Distributed by P. D. Newton & Co., Inc., Newark, N. Y.

A GOOD LESSON IN PACKAGING



Nature gave the banana a good package. Though its skin completely protects the fruit, it is easily removed. And while you eat the banana, its skin serves as a convenient means of holding it.

Now let's look at machine-made wraps. Take a package of tissues. Here we devised an equally unique package. A tug of an easily grasped tab cuts a neat slit in the cellophane through which tissues are easily drawn. The wrap, however, remains intact, serving as protection for the remaining tissues. Increasing sales of tissues packaged in this manner are a good indication of what this improvement has done for leading makers of tissues, all of whom use our machines.

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This is but one of many packaging innovations developed by our engineering and designing staff. And the machines we build cover not only the wrapping of individual items, but bundling machines, bag-making and filling equipment, carton-forming machines, etc. In short, Package offers not only the ingenuity that leads to new and better forms of packaging, but the machines that insure LOWEST COST.

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Rigid barriers for the military

A definition and a discussion of indications for their use in preservation and packaging

By GORDON S. MUSTIN*

Many military contracts now prescribe, or at least permit, that material be packaged in various types of rigid barriers. The specification writer may have in mind improved preservation, more durable packages, re-usable containers, greater economy or a combination of some or all of these factors. The purpose of this paper is to classify the various types of rigid barriers used in military packaging and to indicate where, based on several years' experience, their use appears justified.

This paper will not enter into discussion of food packaging in cans. This field alone has consumed at least one entire volume (1)†. Nor will any attempt be made to invade the pharmaceutical or beverage fields. Bulk products, such as oils, greases, chemicals, etc., will also be eschewed. The discussion herein will be confined, insofar as possible, to rigid barriers used for simultaneous preservation and packaging or packing of "hardware"; *i.e.*, fabricated items or assemblies.

The basic characteristics of rigid barriers are divisible into two broad categories arising directly from the name.

First there is the matter of rigidity, which needs a certain amount of definition since, for example, many heavy-walled polyethylene containers are distinctly bendable. A working definition can be arrived at by contrast with the so called flexible barriers, which tend to conform, even if roughly, to the shape of the contents. A rigid barrier, on the other hand, tends to retain its shape whether or not the contents are an item, a liquid or a gas. The second common characteristic is that they must be barriers to the transfer of some substance. As used in this paper, the substances against which they must be barriers are liquid water and water vapor. Many of the properties which render a rigid barrier water-vaporproof appear also to render the same barrier impermeable to the various volatile corrosion inhibitors. Which of these properties are pertinent to this latter characteristic, or to what extent, remains to be determined (2). For general applications in the military packaging field they must also be barriers to all commonly used lubricants and preservative compounds, whether petroleum, lanolin or diester based.

Under the two definitions just given, rigid barriers usable for preservation and packaging can be di-

PHOTO, BALTIMORE STEEL CO.

1. AIRCRAFT ENGINES packaged in metal containers do not need prime forms of transportation. Photograph illustrates how nine Pratt & Whitney turbo-jet engines are loaded for shipment in an open car.

* Formerly of the Bureau of Aeronautics, Department of the Navy. Now with Container Laboratories, Inc., Washington, D. C. The opinions expressed herein are those of the author and do not necessarily represent the views of the Department of the Navy.

† Numbers in parentheses identify References appended.

PHOTO, CLEVELAND CONTAINER CORP.

2. FOIL-FIBRE spiral-wound cans with metal ends make efficient rigid-barrier packages for small items. The aluminum foil ply provides the water-vapor barrier. Photograph shows types of load and arrangement of interior for tests of ability to use these cans in Method II packaging.

vided into five general classes, as follows:

1. *Metal containers.* These are usually steel, coated for protection in many ways. Cans may often be fabricated from aluminum alloy, however.

2. *Molded or blown solid plastic containers.* An excellent breakdown of the many materials usable is given in the literature (3) and need not be repeated here.

3. *Plastic containers,* reinforced (within the plastic barrier) in many ways, with the use of glass-fibre reinforcement becoming more popular as more is learned about fabrication and design techniques peculiar to this type of container.

4. *Fibreboard drums* with an aluminum foil interleaf applied between layers of waterproof fibreboard with a waterproof adhesive as a laminant. This type of container has already been universally recognized as an excellent water-vapor barrier through its general adoption for domestic shipments of desiccants (4). Bixby and Kurtenacker (5) at the Forest Products Laboratory have conducted tests which indicate that, with certain restrictions on methods of fabrication and sealing, they are usable for Method IA and Method II preservation of many items.

5. *Glass containers.* Containers of this type are, of course, usable for many items if the necessary precautions are taken to prevent breakage due to the inherent brittleness of the material. However, some caution should be exercised in using glass in contact with highly polished steel, since the acidic components present on the surface may sometimes cause contact corrosion.

Let us first examine the properties of these various types of barriers as water-vapor barriers. The ultimate is, of course, reached with glass and metal containers where, effectively, the transmission rate is zero. In the case of metal containers, of course, this statement assumes proper fabrication of all seams, whether by welding or soldering. The aluminum foil-fibreboard type of container (Fig. 2) has a water-vapor-transmission rate which, at worst, is no higher than that of the best flexible barriers such as those covered by Specification MIL-B-131. Aluminum itself has a zero water-vapor-transmission rate, the passage of water being confined to pinholes in the foil. Some pinholes are inevitable, but their incidence in this type of construction would probably be quite small because of nonflexing after assembly into the rigid container wall. In effect, it is possible to consider these containers as interchangeable, practically speaking, with the metal container when comparing initial water-vapor-transmission rates alone.

It is unfortunately true that little has been published on the water-vapor-transmission rates of plastics and reinforced plastics in the thicknesses needed for rigid barriers. In the thinner films there is evidence to show that fairly low WVT rates are achievable and the evidence of progressive reduction in rate with increased thickness is fairly sound. For specific examples involving polyethylene commercially available in this country consult the specification (6). Some comparative data on thickness versus WVT rate of polyethylene, Pliofilm, saran and MSAT cellophane have also been compiled by Tibbets (7) of The Dobeckmun Co. Schuler and German (8), working with samples of polyethylene contributed by Imperial Chemical Industries, found values on the order of one half of the maxima permitted by the American specification, but showing definitely that the curve flattens out asymptotically with some value which appears to be characteristic of the material.

Determinations of water-vapor-transmission rate by the conventional means used by packaging engineers (9) are complicated by the definite tendency of materials in the greater thicknesses to absorb measurable amounts of water. Reinhart and Slone (10) at the National Bureau of Standards have devised a modified technique which differentiates these factors and have conducted measurements, at the same temperature and vapor-pressure differential used for thin sheets, on several fibre and mat-reinforced polyesters. For the materials tested, in thicknesses of approximately ¼ in., the values found were on the order of 0.01 to 0.04 gm. per 100 sq. in. per 24 hrs., depending on the method of fabrication and, when appropriately laminated with a sheet of aluminum foil, the rate was zero. Although not proved by existing data, it appears reasonable to assume that substantial changes would not be encountered with greater thicknesses.

No data have come to the author's attention which would indicate that the full range of materials cannot be made satisfactorily greaseproof.

In light of the above and in consideration of the many structural ad-

vantages which can be gained, it is possible to forecast that reinforced polyester cans will eventually become highly competitive with metal containers for many applications, particularly on high-production runs. Increasing attention is, of course, being given by the military services to certain applications (for example, in the guided-missile field) not only for these reasons, but also because of the necessity for considering the possibility of using more readily available materials in time of war. The principal disadvantages today are the high cost of raw materials in comparison with steel and, as typical of new materials, lack of design experience. There is no reason to believe that these difficulties will not be considerably reduced in the foreseeable future. Although many of the remarks that follow will mention metal containers, it should be borne in mind that reinforced polyesters are also implied, particularly where technical comparisons are being made.

A further classification of rigid barriers is possible on the basis of whether they are re-usable or non-re-usable. In the limited packaging field discussed in this paper, re-usability is primarily determined by the method of closure. Among the most common re-usable closures are:

1. *Flange bolting* of two sections together with an elastomeric material, most commonly in the form of O-ring gasket, providing the actual seal. This is common in the cans for larger items. (See Fig. 6.)

2. *Bolted-ring-type closures* with sealing again being accomplished by a ring-type gasket.

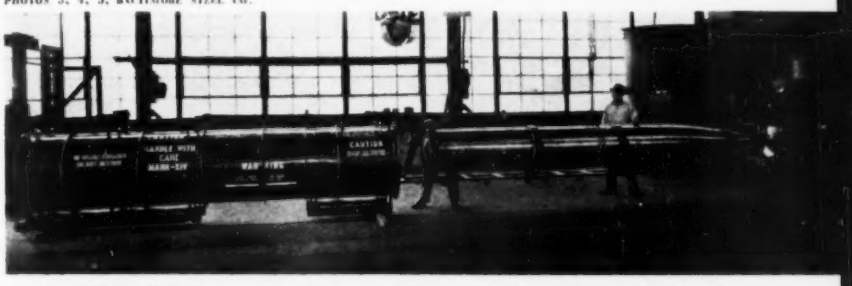
3. *Lug covers* with sealing as before.

4. *Single and double friction tops;* e.g., the paint can. This type of closure has been suspect for some time when used with concentrated loads because of the possibility of the seal being broken by blows from the contents. This was particularly true where achieving security was attempted by the use of three blobs of solder. With Post Office approval of the ring-type seal for securing the lids of paint cans as well as certain small clips which are just coming on the market, it is believed that perfectly satisfactory sealing can be achieved without difficulty, providing the container is not overloaded in the first place.

5. *Slip-cover closures,* such as those found in cans for motion-picture film, with a pressure-sensitive tape completing the seal. Here, too, there is controversy concerning the efficacy of this type of seal. If the two pieces are a close fit and the overlap is long enough, adequate prevention of water-vapor transfer is obtainable. Supporting this statement is the work of De Neale (11) at the Naval Gun Factory. Cans were equipped with free breathers which consisted of long tubes open at the ends. There was no change in internal moisture content after cycling in a humidity cabinet for several hundred hours. In effect, the rule of thumb which states that there will be no transfer of water vapor if the length of the opening is 10 times the diameter of the opening is believed to be applicable to the slip cover. Suffice it to say that the Navy has had perfectly satisfactory service from several million aircraft spark-plug containers with slip-cover closures at a cost of three cents per container.

6. *Special-type closures* such as

PHOTOS 3, 4, 5, BALTIMORE STEEL CO.



3. PACKAGING on a big scale is loading a torpedo, minus warhead, into forward end of re-usable metal container. Torpedo weighs 2,000 lbs.

4. FINISHED CONTAINER for torpedo ready to go. Container, 23 ft. long by 32 in. in diameter, weighs 2,750 lbs. empty. Note brackets for nesting. Cyclic maintenance of torpedoes has been greatly reduced by this package.

5. GUIDED MISSILE can be shipped, stored and handled complete in this container, or container can be taken apart at flanges and, using covers shown, shipped as component sections. Complete container is 20 ft. by 28 in.

bayonet lock, interrupted and continuous screw thread, and other special rapid-opening types.

Non-re-usable closures include the familiar sanitary-type can closure and the tear-strip can. In small plastic vials and the like, a slip cover is frequently permanently sealed by applying a drop of solvent to the exposed joint. Capillarity insures even distribution and solvency welds the two pieces together. Soldering and welding of metal covers, practices which used to be common in the past, are rarely done now, but there is no reason why they could not be used in special circumstances.

PHOTO, BALTIMORE STEEL CO.

6. SHOWING MOUNTING of a Pratt & Whitney Wasp Major bomber engine in re-usable metal container. Engine is attached by one of the adaptors to the side rail, which in turn floats on shock and vibration isolating mechanism. Sealing around the closure flanges is obtained by an O-ring gasket.

In the larger containers, also, non-re-usability may be indicated by slight differences in the performance criteria although a re-usable-type closure may be prescribed for convenience in loading and unloading. In the re-usable container it is almost invariably specified that there shall be no deformation of any part of the container after completion of the various types of performance tests. Since these tests are representative of the most severe conditions rather than average, it is possible to permit some permanent deformation in the non-re-usable containers, thus encouraging lighter structure. This requires good judgment on the part of testing personnel in evaluating whether the deformation is significant. Such subjective tests are, of course, poor specification practice, but with an adequate meeting of the minds prior to testing, good containers in this category can be procured.

With the above cataloguing of the various types completed, it is apparent that practically any type of container is usable by the military provided it is, in fact, a rigid barrier within the definition given earlier. The question then arises concerning *when* rigid barriers should be used in military packaging. There is no one answer to this question, not only because of the wide variety of containers available, but also because of the large number of factors which must be considered. Further, some of the reasons advanceable are not clear cut in specific cases and final decision must be based on consideration of all factors. In order, however, to provide some guide lines, a catechism approach is followed to permit proper discussion of each factor in its turn.

In the catechism which follows, it is emphasized that the comparisons made are not of rigid barriers versus flexible barriers. They are, rather, comparisons between unit containers with the barrier integral with the container wall and unit containers with an auxiliary barrier, usually, but not always, flexible. It should also be noted that the rigid barriers are only intended to be used if the special circumstances outlined here warrant their use.

Under no circumstances may the conclusion be drawn that the days of flexible barriers in military packaging are numbered. On the contrary, the normal reaction of the container designer in thinking first of a flexible barrier-conventional container combination appears to be the best approach. Having thought of this, then the mental exercise of the catechism may cause a change of mind. The full case for selection of a flexible barrier and the types available for various uses are not within the scope of this paper.

Question: When is a re-usable container of any type justified from a purely military standpoint?

Answer: 1. From the purely military standpoint, a re-usable container is justified whenever there is a two-way flow of equipment. For example, an aircraft engine (Fig. 1) will move to an operating squadron where it will replace an engine already in the airplane which is non-operative or has simply completed its authorized service life. It is a military requirement that some means be provided to transfer the replaced engine to a rear area for repair.

2. A container with a re-usable closure is required militarily wherever the contents are such that modernization (i.e., incorporation of service changes) will be performed while the material is in the "pipeline" or where the nature of the material is such that the package must be opened periodically for renewal of lubricants and recalibration of the device so that only completely ready-for-use equipment is delivered to the combat forces.

3. Because re-usable-type closures frequently permit rapid opening, such closures, and hence re-usable containers, should also be considered wherever opening under combat conditions is a possibility.

Question: Are there good business reasons for the adoption of a re-usable container by the military?

Answer: 1. If they will save money, compared to other methods, they are justified.

2. In the two-way-flow situation it is necessary to insure that overhaul costs are limited to the cost of repair of the defect which originally caused replacement of the item. It should be noted, however, that the counter-flow must be regularly organized with fairly good volume or it might be cheaper, dollarwise, to allow the forward-area people to construct an occasional container locally or even to go so far as to accept the loss of the material.

3. Re-usable containers are frequently selected on business grounds for whole categories of materials which are not modified in transit and are subject to one-way flow in the strictest sense of the word. Heavy-calibre ammunition for shipboard use is a prime example. Here the volume is so large and the unit cost so high that the return of empties is economically justifiable. There is also a military justification which will be brought out a little later.

4. Where an item will have a medium-length service life and the flow pattern will be fairly irregular, re-usable containers can still be justified on the basis of good business. For smaller items it is possible to

adopt standard-sized cans, usable with cushioning materials or with various types of inserts so that the containers continue standard although the contents may change with the years or from shipment to shipment. This approach has been taken with the familiar series of AN re-usable interior and exterior containers. It has been estimated that the first cost of one of these containers is completely amortized after the fourth use of the container, not counting other plus values gained in the meantime.

Question: How should costs be computed to determine whether there is a saving?

Answer: Ideally, one should include all costs. First cost of the container and all associated parts and equipment is only the beginning. Storage and shipment of empties, installation costs, inspections in storage, unpackaging and repackaging, renewals of desiccant and container repair should always be considered. These costs should be computed in a comparative manner until a break-even point is established. It is then possible to determine whether the original investment can be returned in reasonable time. Naturally, if some other saving, such as is achievable through improved protection of the material, can be postulated, these savings should also be considered in determining whether a re-usable container is good business. Where there are interplant shipments of semi-finished articles (for example, shells from machine shop to loading plant), the costs of packaging the semi-finished material should be included. Savings can often be realized in this area beyond what is sufficient to justify a re-usable container.

Question: Is there a military requirement that the re-usable container be a rigid barrier?

Answer: Actually, no. There is, however, a military requirement that containers for equipment to be placed on board combat vessels be non-flammable and, while not technically impossible, it is difficult, speaking practically, to postulate meeting this requirement without having a rigid barrier. The other military requirements for a re-usable container are that it protect the contents and that it be re-usable. Material selection is a matter of design and economics.

Question: When should a rigid barrier be used for a re-usable container?

Answer: When it is the cheapest form of container, all costs considered. In this connection, costs which should be most carefully computed (they are generally but not always higher for a rigid container) are:

Tooling.
Shipment of empties.
Storage space for empties.
Storage space possibly lost because sizes available do not always closely match size of contents.
Extra cushioning which may be involved.
Necessity for good-sized order (bringing in possibility of high cancellation charges if the program be drastically cut).
Costs of returning empties for re-use.
Possible higher material costs.

Against these may be offset the usually lower labor costs at time of installation and, from the customer's standpoint, savings from almost complete elimination of container repair costs and, normally, longer life of the preservation in storage.

Question: When should the rigid barrier be transparent?

Answer: Aside from selection on the basis of competitive pricing, a transparent container should be used for items where identification must be made from the item itself or for convenience in inventory. An example of item identification occurs in the packaging of a military radio crystal. When there is a change in the communication plan, crystals must be changed. The frequency is marked on the outside of the crystal holder and can be read through the container wall. The replaced crystal is then put in the transparent container and re-identification of the package is accomplished automatically. Inventory convenience of very small parts (such as watch parts, for example) through a transparent wall is self evident. This convenience can, of course, be obtained with a flexible barrier so that selection comes, technically, to a determination of the amount of item protection required.

TABLE I—COST COMPARISON, AIRCRAFT ENGINE CONTAINERS OVER 24-MONTH PERIOD

	Metal	*Wood*
Initial cost of container	$1000	$500
Flexible barrier	—	50
Installation of engine	20	30
Monthly inspection @ $1	24	24
Semi-annual preservation renewal	—	240
Container maintenance	50	400
Totals	$1094	$1244
Saving with metal	$ 150	

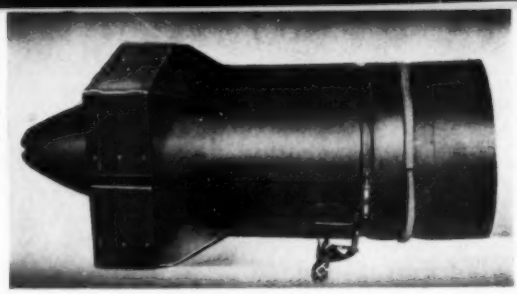
TABLE II—COMPARATIVE COST OF NEW OR NEWLY OVERHAULED ENGINES CORRODED IN STORAGE

	5-month period fiscal 1947	*5-month period fiscal 1953*
Number of engines corroded	801	1
Minor repair of 19 (1947 prices)	$27,400	—
Minor repair of 1 (1953 prices)	—	$1750
Major overhaul of 642	1,926,000	—
Replacement cost of 140 scrapped	2,100,000	—
Total	$4,053,400	$1750

Question: When is a non-re-usable rigid container indicated?

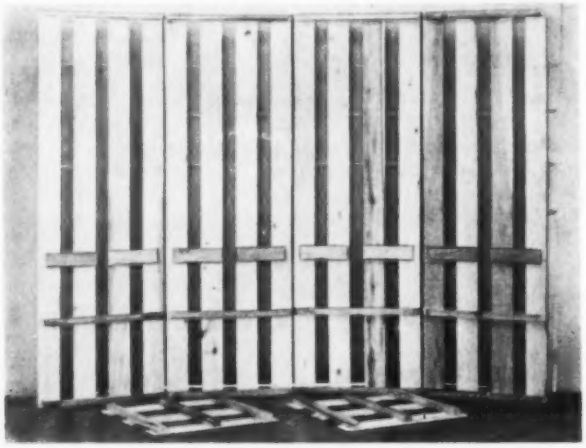
Answer: A non-re-usable container is technically justified on items requiring a high degree of preservation where the volume is so high that preservation maintenance in storage would represent an intolerable financial burden or, more practically, simply would not be performed for lack of personnel. Necessary corollaries for full realization of economy are that the item is not overhaulable and will not require modification prior to issue to the using activity.

There is another general reason for the selection of a rigid barrier. Essentially this reason reduces to the fact that the containers themselves deteriorate very slowly (the Bureau of Aeronautics is still receiving yeoman service from some aircraft-engine containers which were procured in 1945) and it is comforting to know that, when positive corrosion protection and careful protection against shock and vibration are essential, the properties originally designed into the container will still be there several years later. Here one is not faced with worries about wood shrinkage, loss of nail-holding properties, dry rot, fungal attack at glue lines, termites *(This article continued on page 241)*



1. MINE FAIRING, type XM-2B, ready for crating. Nose has been inserted into aft section, with corrugated separator between.

2. WIREBOUND CRATE as developed for Mine Fairing XM-2B is shown here in knocked-down form as delivered to packing line.

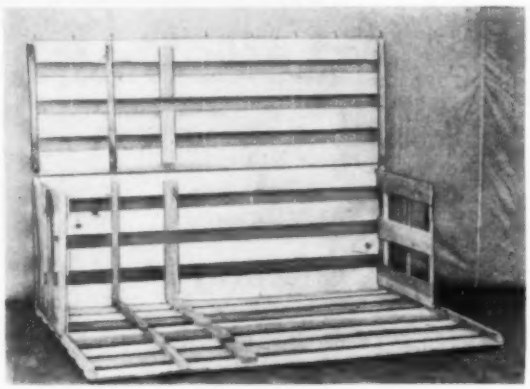


Engineering

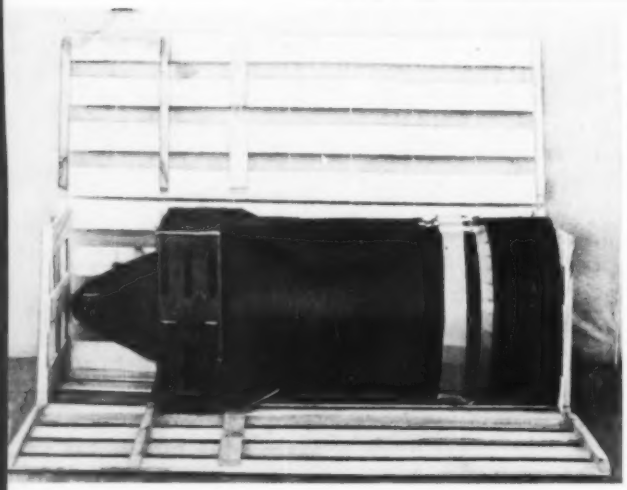
The principle of construction of a wirebound crate differs greatly from that of a nailed construction. The dominant physical property of a wirebound crate is resilience, while in a crate of nailed construction it is rigidity. By definition, resilience is the "act or power of springing back to a former position or shape," while rigidity is the "character of resisting change of shape or form." Thus it is evident that these two types of crate construction have properties that are virtually opposites.

Resilience is built into wirebound crates by using relatively thin slats and reinforcing the slats with binding wires. The combined action of the flexible slats and the binding wires permits the crate to deflect when a force is applied to it. The crate may be deflected a considerable amount without disturbing the relation between slats and binding wires. As soon as the force causing deflection is dissipated, the crate snaps back into its original form. It is still an engineering structure. Forces causing deflection may be applied repeatedly and as long as deflection does not exceed the amount for which the crate was designed (say 1 in. in a diagonal direction), the crate will continue to assume its original form after the force causing deflection has been dissipated.

Several important benefits are derived from a crate of resilient construction. In the general handling of the crates—in carloading and unloading, humping railroad cars, applying brakes on a motor truck suddenly—a shock of considerable magnitude may be imparted to the crates. On a resilient crate an appreciable portion of the force is dissipated in deflecting the crate; the remainder of the force is transmitted to the contents of the



3. READY for fairing, crate has been folded and assembled by driving four nails through each rear outside cleat into a batten located on each end.



4. IN POSITION after fairing has been rolled over front section of crate. Note how square frame on aft section of fairing fits between two rows of intermediate cleats on all four sides. This holds tail clear of crate end and prevents movement of fairing in any direction. Note that row of wide intermediate cleats is interrupted at center of each section to straddle each of four center fins of the fairing.

5. CRATE IS CLOSED by closing nine wire loops and driving four nails through each front outside cleat into the batten on each end.

* Director of Sales Research, Package Research Laboratory, Rockaway, N. J.

Principles of construction and function are demonstrated by a specific military application.

By HENRY A. WOLSDORF*

a wirebound crate

crate. On a crate of rigid construction very little of the force is dissipated in deflecting the container and a much larger proportion is transmitted to the contents. If the contents of the crate are of a non-destructive nature, the magnitude of the force transmitted to it may be of no material importance. However, if the contents are fragile or can be easily damaged, it becomes desirable to limit the force of shock transmitted to the contents.

On a wirebound crate, resilience of the crate may provide all of the necessary protection and achieve satisfactory delivery of contents, while a rigid container may require a cushioning medium to dissipate the additional shock imparted to the contents.

Since resilience in a wirebound crate is obtained by using slats that are thinner than required on nailed construction, a large saving in the use of lumber results. Naturally, the cost of a wirebound crate is lower. By using less lumber, the net weight of the wirebound crate is also lower and a saving in freight charges is thereby realized. In many instances the cubic displacement of the wirebound crate is also less, which may add further savings in warehouse space and water-transportation charges.

Finally, technological developments that have been made on machinery used for manufacturing wirebound boxes enable facilities for bracing and blocking of the contents to be fabricated on the crate at the time when the crate is manufactured. This eliminates many hand operations on the packing line, such as nailing fixtures in place. For this reason and because assembly and closing time for wirebound boxes is low, valuable manhours can be saved on packing lines.

Example

At the request of the U. S. Naval Ordnance Laboratory, Silver Spring, Md., Package Research Laboratory undertook the development of wirebound crates for mine fairings. It was believed that a wirebound crate designed to give adequate protection to the mine fairing at a prescribed level of performance should result in savings of first cost, tare weight and cube over any other type of crate giving equal protection. It was also anticipated that savings in labor in the assembling, packing and closing operations would result.

The mine fairings being packed are made from light-gauge sheet aluminum. The sheets are rolled and formed into the desired shape. In nearly all models, the nose section is reversed and inserted into the aft section of the mine fairing in order to reduce the cubic displacement of the mine fairing to a minimum, as shown in Fig. 1. The nose and aft sections are separated and cushioned by means of a corrugated separator placed between them.

Careful consideration was given to the manner in which the mine fairing should be located and supported in the crate. This was necessary because the curved surface of the mine fairing dents very easily and the edges of the light-gauge aluminum sheet can scarcely sustain any shock without curling. The manner in which this was done for Mine Fairing XM-2B is described below.

The wirebound crate, in knocked-down form as delivered to the packing line, is shown in Fig. 2. The crate is folded and assembled as shown in Fig. 3. The assembly operation consists of driving four nails through each rear outside cleat into a batten on each end, adjacent to the cleat. Now the crate is ready to receive the mine fairing. The latter may be rolled over the front section of the crate into position as shown in Fig. 4. The square frame at the tail end of the aft section fits between the two rows of intermediate cleats. Clearance is thereby provided between the curved portion at the tail end of the mine fairing and the left end of the crate, while the nose section bears against a large surface of the right end of the crate. The row of wide intermediate cleats is interrupted at the center of each section of the crate in order to straddle the four fins, one of which radiates from the center of each face of the mine fairing. The diagonal fins are in the clear. When the wirebound crate is closed, (Fig. 5.) each face of the square frame of the mine fairing bears against that portion of the crate included between the two rows of intermediate cleats. The closing operation consists of closing the nine wire loops along the closing edge of the crate and driving four nails through each front outside cleat into a batten on each end, adjacent to the cleat.

After wirebound crates for the various models of mine fairings were developed, the crates were tested. The following test procedure prescribed by the U. S. Naval Ordnance Laboratory was applied to the packed crates:

a. Four 30-in. drops on alternate corners.

b. Thirty minutes vibration at 1 g.

(This article continued on page 246)

6. FOR CONTRAST, this is nailed wood crate originally proposed for Mine Fairing XM-2B. It is 34% heavier in tare weight, 20% heavier in gross weight, 13% greater in displacement; costs more and takes longer to assemble, pack and close.

Questions & Answers

This consultation service on packaging subjects is at your command. Simply address your questions to Technical Editor, Modern Packaging, 575 Madison Ave., New York 22, N. Y. Your name or other identification will not appear with any published answer.

Curling of plastic-coated paper

QUESTION: One of our bag-making machines uses pre-cut paper fed from a lift-type magazine. This machine works very well with most types of paper, but gives poor efficiency when used with one-side-coated papers, particularly if the coating is a plastic. Our problems arise as a result of the curling and wavy edges of such plastic-coated papers. Can we find a plastic-coated paper that will lay flat at all times? Can we treat such plastic-coated papers in some way to improve the flatness?

ANSWER: The problem of keeping sheets of one-side-plastic-coated paper flat for a critical machine operation is nearly impossible of a simple or general answer. Plastic-coated papers curl for two reasons. One is that dimensional changes take place in paper with changes in atmospheric humidity, while the plastic coating is not similarly affected. The result is a curl or wavy edge, the severity of which will depend upon the amount and the rapidity of the humidity change. The other cause of curling can be attributed to a shrinkage that occurs with some types of plastic coatings upon aging. The amount of this shrinkage is very small, but it is enough to make a permanent curl in the coated paper. This shrinkage is caused by slow internal changes in the plastic which result in internal strains or shrinkage, or both. This type of curl can sometimes be eliminated from coated paper before sheeting by the use of a breaker bar.

Curl resulting from humidity changes can theoretically be eliminated by conditioning the stock at a certain humidity. However, this may take a long time to be effective and each lot of stock may require a different set of humidity conditions.

The best answer to your problem is to modify the feed end of your bag-making machine to use roll stock. By the use of a roll feed you can handle almost any kind of coated paper even if the material has a considerable curl.

Delamination of fibre tubes

QUESTION: Our fibre tubes show delamination and blisters some time after they have been wound. We use both starch and asphalt as adhesives. The asphalt is also used for waterproofness. Can you tell us how we can avoid blistering and delamination as the tubes age?

ANSWER: There are two separate possible answers to your problem of delamination as the tubes dry out and age.

First, the amount of moisture coming from the water-base adhesive must be kept as low as possible and yet maintain good adhesion. This can be done by using special types of high-solid-content adhesives and by applying them in a uniform and controlled manner. By keeping the moisture content as low as possible during manufacture, the amount of shrinkage of the tube as it ages will be kept to a minimum. It is this excess moisture that can cause blisters and wrinkles and set up strains that induce the asphalt to yield and produce delaminations.

The other suggestion is to modify the asphaltic coating so that it has better adhesive and strength properties. There are many additives that can be blended with the asphalt to lower its working temperature, improve its tackiness and give it greater general durability even at low temperatures. Such additives are usually effective in low concentrations and while they do raise the cost, the results are more than worth the higher price. Some companies offer blended or modified asphaltic compounds that are especially adapted for adhesive use in tube winding or laminating of papers.

The net result of a lower moisture content from an improved water-base adhesive and better application control, plus the use of a blended or modified asphalt should eliminate the problem which you are encountering in the blistering and delaminating of your fibre tubes during aging.

Abrasive-resistant bag lining

QUESTION: We ship large quantities of a fine chemical which is in the form of a sharp and hard crystalline mass. This chemical is packed in all-paper multiwall bags in sizes from 25 to 100 lbs.

Several customers using this product have reported that they notice lint and paper fibres present when they dissolve the chemical in water. Can you suggest a type of bag or any treatment that can be given the paper in the type of bag we are using that will result in eliminating abrasion of the liner?

ANSWER: It is doubtful if you can obtain a paper finish for the lining of your multiwall sacks or a paper which would be resistant to the abrasive action of your chemical. This problem has occurred in the case of some synthetic resins where it was necessary to eliminate fibre contamination in the finished product.

The problem has been solved by the use of a polyethylene-coated kraft paper as a lining ply for the shipping sack. The polyethylene surface is very tough and smooth and carries no fibre. A polyethylene coating has the further advantage of being chemically inert and it would provide some moisture protection to your product. If you will contact your shipping-sack manufacturer, he can supply you with samples of this construction which you can either laboratory or field test. It is probable that they may offer a satisfactory solution to your problem.

Are you taking steps toward package improvement?

There's no end to ideas for improved packaging. Take, for instance, this cracker package. Convenient, individual servings in Cellophane then placed in a carton overwrapped with Cellophane for extra freshness protection and sparkling attractiveness—a far cry from the days of cracker-barrel packaging!

Today's shoppers have shown that they like—and buy—convenience. A knowledge of such consumer likes may help *you* make a better package. And today there are available films and packaging techniques to develop modern packaging ideas.

You can call on Du Pont for help with every essential of improved packaging . . . helpful surveys of buying habits . . . assistance in selecting the right film and getting the most efficient packaging construction. Get in touch with your Du Pont representative. He'll be glad to work with you in planning your package. For information on bags and printed materials, get in touch with a converter of Du Pont films—E. I. du Pont de Nemours & Co. (Inc.), Film Department, Wilmington 98, Delaware.

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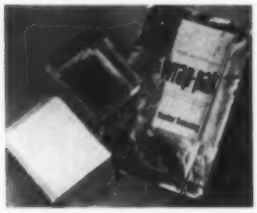
Equipment and materials

A NEW FROZEN-FOOD CONTAINER

announced by the Reynolds Metals Co., 2500 S. Third St., Louisville, Ky., is reported to freeze up to 30% faster than other flexible packaging materials, to give excellent protection against dehydration and to be adaptable to automatic production. The new Wrap-Pak consists of an aluminum-foil tray, which serves as the actual container, a paperboard cover (plain or foil laminated) and a foil-laminated sheet overwrap which may be color printed. The Hayssen Mfg. Co. supplies wrapping machinery for the Wrap-Pak or will modify existing equipment to handle the new container. The cover, when folded over the container, gives rigidity to the package; its long tab ends allow the overwrap to effect a seal which is said to decrease dehydration to the barest minimum for flexible packaging. Standard containers have coated aluminum trays; uncoated trays are available for products where tests have proved the uncoated tray satisfactory. The Wrap-Pak is easily opened by slitting the overwrap along the side just below the flap; this provides finger holds for easy removal of the wrap. Foods may be reconstituted directly in the package and also may be served directly from the container. Rectangular shape of the Wrap-Pak consumes minimum space in market freezers.



A NEW AEROSOL-DISPENSING VALVE

designed specifically for glass-bottle packaged spray products has been announced by The Risdon Mfg. Co., Valve Div., Naugatuck, Conn.

Basic design feature of the new valve is that it has no metal in contact with the contents of the bottle, thus eliminating the possibility of corrosion of any of the valve components.

External appearance of this new Model "GB" valve is styled to be appropriate to bottle-packaged products. The valve is suitable either to coated or uncoated aerosol bottles. It is available with either horizontal or vertical spray actuators, according to the manufacturer.

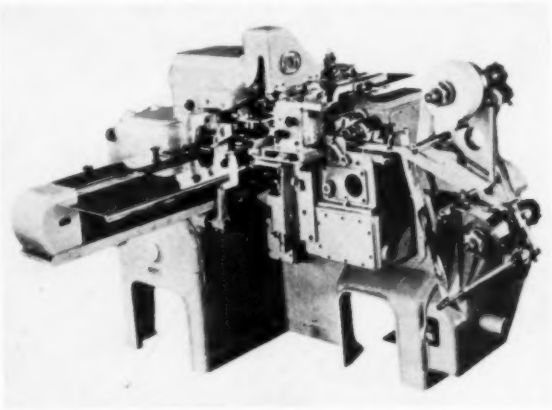
Protective caps in metal or plastic are available in custom designs to complement the product package.

RAYON TEXTILE BAGS

for the packaging of flour, feed, meal and other products normally packaged in bags are now being manufactured by several bag companies, according to the American Viscose Corp., New York, producers of rayon fibre. The bag fabrics come in different constructions and weights for various packaging needs. Features claimed for the rayon bags are durability, ease of filling, stacking and shipping, and their re-use value to the housewife for sewing. Bags are being made in prints, stripes and solid colors. Companies already distributing these new rayon bags are Bemis Bro. Bag Co. and the Chase Bag Co. A nation-wide promotion program in behalf of rayon bags is being planned by the American Viscose Corp.

SWISS AUTOMATIC WRAPPING MACHINES

made by the Swiss Industrial Co. (SIG), Neuhausen Rhine Falls, Switzerland, are now available in the United States through the Stokes & Smith Co., subsidiary of Food Machinery & Chemical Corp., Philadelphia 24, Pa., through an exclusive sales and service distributorship arrangement. Heretofore, sales of SIG machines to American users have been handled directly by the manufacturer in Switzerland. The SIG line is comprised of three classes of machines: candy and bar wrapping and cartoning; molding and wrapping, and packaging of loose products. Typical products handled by the equipment include chocolate tablets and bars, bouillon cubes, wafers, soap products, butter and margarine, detergents and ground or bean coffee. There is also a wide range of special designs for a variety of other products. Among the better known SIG machines is the Type CK illustrated, a high-speed, adjustable model for ½- to 3-oz. chocolate bars and tablets. This machine has a maximum output of 160 packages a minute, with completely automatic operation that requires but two attendants.

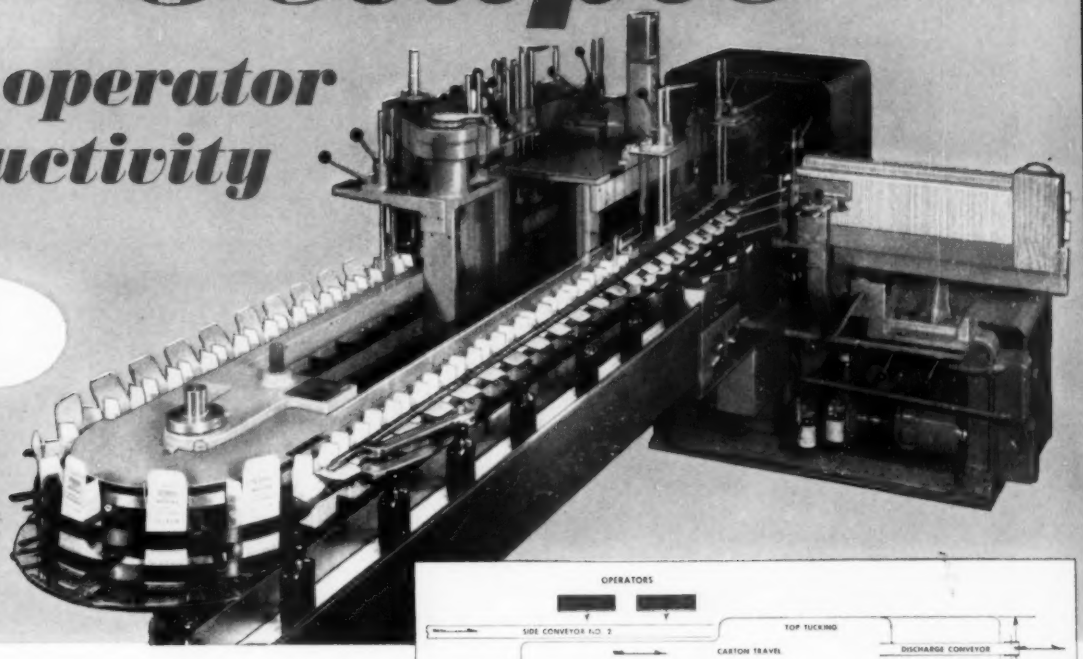


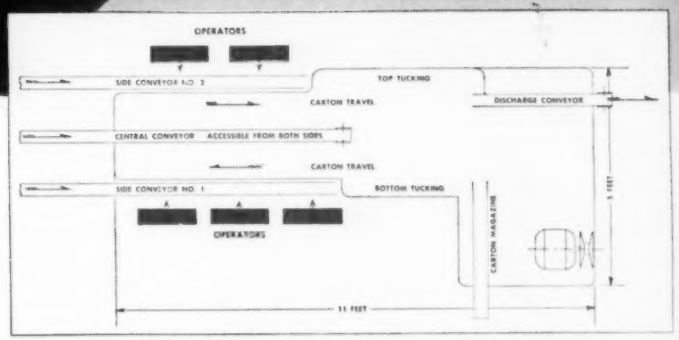
A MERCHANDISING PROGRAM FOR CHUNK SAUSAGE

packers developed by the Transparent Package Co., Chicago, features a casing with maximum brand identification and calibrated for slicing, a formed Pliofilm "Tee-Cup" wrap and "Uni-Pak'R" equipment specifically designed to apply and seal the Tee-Cup wrap to the sausage chunks. With this new packaging, meat can be sliced when needed, slices can be cut to any desired thickness, freshness of the meat is preserved and possible weight loss due to shrinkage is greatly reduced, the supplier reports. The Tee-Cup, made of Goodyear's Pliofilm, is available in both a 3- and 4-in. size to accommodate chunks with stuffed diameters of 3, 3¼ and 4¼ in. Tee-Pak's 1¾-, 2¼- and 2¾-in. stock chunk casings are calibrated for 12-slice and 20-slice chunks. Slicing marks are indicated on the casings as a guide to the consumer. The small, portable Uni-Pak'R sealer was engineered by the Tee-Pak research department, with the assistance of the Pliofilm Div. of Goodyear Tire & Rubber Co. and the Cleveland Lathe & Machinery Co. The chunking operation, carried on by one person, is said to be the first application of the Tee-Cup in the food field. Cup shape of the film makes the

want to Octuple *your operator productivity*

?





If you're cartoning your product by hand, the chances are you're getting about 7 loaded, tucked cartons per operator minute. Compare this with a typical one-piece load on the CMV: *One operator easily produces 56 to 70 finished cartons per minute—an increase of 800% or more.*

The CMV relieves the operator of all carton handling. It feeds and opens the carton, closes and tucks the bottom flaps, and carries the carton past the manual loading stations in smooth constant motion. The top end is tucked automatically and the finished package is discharged on a belt conveyor.

Since the carton is transported securely between lugs, the operator does not waste one hand stabilizing the carton while she loads. She inserts a load with each hand, so that 30 simple, rhythmic loading motions per minute keep pace with a machine speed of 60 per minute.

For higher speeds or multi-piece loads, the standard models provide loading stations for as many as five operators. Special length machines are available if more than five operators are needed.

TWO MODELS—**quickly adjustable within the following ranges of carton sizes:**

MODEL **4** **½ x ¾ x 2¼ inches up to 3¼ x 3¼ x 8 inches.**

MODEL **5** **⅞ x 1 x 2⅛ inches up to 4¼ x 4¼ x 9 inches.**

Change to different sizes is made in mere minutes—without special tools or skills.

SPEEDS: *Variable speed drive, range 25 to 120 cartons per minute.*

Let us tell you where you can see a Jones CMV Cartoner handling your type of product.

CMV's *are daily handling over a million cartons containing:*

- **Jars**
- **Tubes**
- **Bottles**
- **Radio Tubes**
- **Hardware Parts**
- **Nursing Nipples**
- **Toy Pistol Caps**
- **Rubber Jar Rings**
- **Electrical Switches**
- **Foil-Wrapped Tablets**

R. A. JONES & COMPANY, INC.

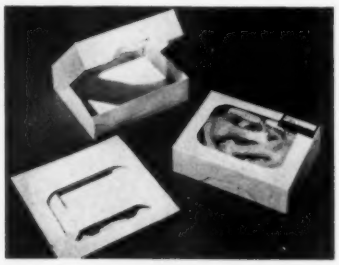
Cartoning Machines—Soap Presses

P. O. BOX 2055 · CINCINNATI, OHIO

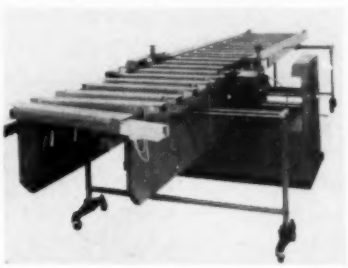
Equipment and materials

initial step in wrapping simple, according to the manufacturer, and the thin, soft film is designed to permit intimate contact with the entire surface of the product, thus aiding in preserving the bloom of the product.

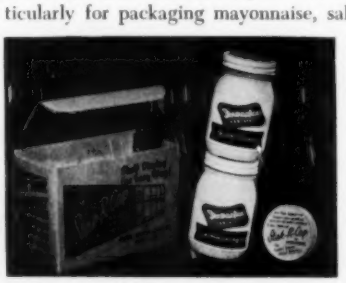
CELLOPHANE WINDOW CARTON FOR CUT-UP CHICKEN designed for store-level packaging has been developed by Marathon Corp., Menasha, Wis. It is reported to offer faster packaging, easier handling, longer package life and extra consumer convenience. Costwise, the new Chick-Pak container cuts labor costs to the extent that total packaging costs are the same or slightly lower than conventional cellophane overwrapped trays, the maker reports. Setting up, filling and locking the cartons are accomplished in a few seconds. Elimination of overwraps insures neat packages that, because of their regular shape, are easier to display. Made from a special wax-saturated paperboard, the cartons resist staining, will not absorb chicken juices and allow the escape of gases and odors, it is stated. The chicken is protected from crushing because of the carton's rigid construction. Chick-Pak comes in three sizes and may be color printed.



A NEW PORTABLE CARTONING MACHINE especially designed for cartoning a variety of long products such as venetian blinds, curtain rods, brushes and other household furnishings and appliances has been announced by the Container Equipment Corp., 84 Locust Ave., Bloomfield, N. J. The machine is quickly adjustable without special tools for glue sealing fibreboard or corrugated containers from 18 to 48 in. deep at rates of from 10 to 50 cartons per min., according to the manufacturer. Product insertion is manual. The machine, called Ceco Model 3901-48, folds flaps, applies glue and seals the cartons automatically.



A NEW TYPE OF GLASS PACKAGE designed to help solve stacking problems in retail outlets has been introduced by the Owens-Illinois Glass Co., Toledo 1, Ohio. Called the Stak-R-Pak, the new container is designed particularly for packaging mayonnaise, salad dressing and similar products. The unit consists of a closure which has a depressed panel and a jar with a ring on the bottom. The depression goes across the entire panel of the closure from the outer diameter with a raised portion just at the outer circumference. The ring on



FREE!

OF EXTRA COST

NEW "Scotch" Brand M-92 Definite-Length Dispenser...*when you buy a dispenser and 12 big rolls* of "Scotch" Cellophane Tape at regular price of* $29.87

M-92 Definite-Length Dispenser

OFFER EXPIRES OCT. 31, 1953!

HERE'S WHAT YOU GET: *two* improved models of the "Scotch" Brand M-92 Definite-Length Dispenser and 12 big 2592-inch x ½-inch rolls of "Scotch" Brand Cellophane Tape for only $29.87—the regular price of the tape and *one* dispenser alone!

That means you get the extra dispenser FREE of extra cost. And what a dispenser it is!

The new broader base gives greater stability, prevents tipping. The cutter blade is quickly replaced. The operating action is easier than ever.

See for yourself how this dispenser can cut your tape costs ⅓! See how it ends waste by delivering measured lengths (up to 4 inches long) right into the operator's fingertips.

Order today from your regular distributor . . . ask for the "DS" Deal.

TAPE PRICES CUT
You can now save up to 23¢ a roll on "Scotch" Brand Cellophane Tape in 1296-inch or 2592-inch rolls—½-inch wide or narrower. Order today!

**Tape can be assorted with your regular order of 1296-inch or 2592-inch rolls for quantity discount.*

REG. U.S. PAT. OFF.

SCOTCH BRAND

Cellophane Tape

Minnesota Mining & Mfg. Co., Dept. MP-103A
St. Paul 6, Minnesota

Please send name of distributor nearest me where I can purchase "DS" Deal before Oct. 31, 1953.

Name.....

Firm.....

City.....Zone...State.....

The term "Scotch" and the plaid design are registered trademarks for the more than 300 pressure-sensitive adhesive tapes made in U.S.A. by Minnesota Mining & Mfg. Co., St. Paul 6, Minn.—also makers of "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives. General Export: 122 E. 42nd St., New York 17, N. Y. In Canada: London, Ont., Can.

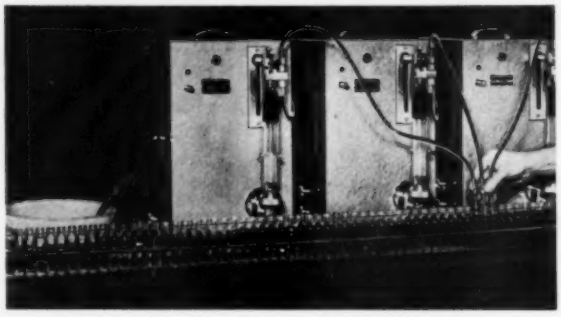
3M

Equipment and materials

the bottom is smaller than the ridge on the outer portion of the cap into which it fits, thus providing the stacking feature. Owens-Illinois recommends the use of this depressed-panel type of package on G-450 finish and on 400 finishes ranging from 53 to 70 mm., in quart and pint sizes. The new package enables stacking of one glass jar on top of the other without the use of corrugated or cardboard dividers in retail display or for shelf-stocking purposes.

HIGH-SPEED MULTIPLE FILLING OF VIALS

at low cost is reported for the Filamatic Add-A-Unit electronic vial filler recently introduced by the National Instrument Co., 5005 Queensbury Ave., Baltimore 15, Md. Any number of Add-A-Units may be operated together in tandem for high-



speed filling of vials and small containers up to 4½ oz. in size. All units operate in synchronization; removal of any unit for servicing does not affect the operation of the others. Any desired production rate can be attained by simply adding units as required. Only one operator is required regardless of the number of units in use. Volume delivered by each unit is adjustable independently of the other units. The entire filling mechanism of each unit is removable for steam sterilization. Pistons can be had in stainless steel or glass. Since the Add-A-Unit takes only minutes to set up, the maker reports, it is equally suited for long or short production runs. Illustrated is a three-unit set-up that fills 50,000 one-ounce vials per 8-hr. day.

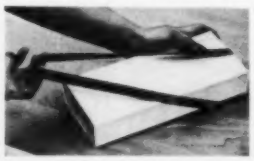
HOLIDAY BACON AND HAM WRAPPERS

being offered by the Paterson Parchment Paper Co., Bristol, Pa., are attractively lithographed in bright red and green on regular Patapar vegetable parchment or Paterson Trip-L-Wraps.

The two stock designs illustrated are being offered, both being available for either bacon or ham packaging. The packer's name and address can be included in the lithographed design without a plate charge.

PLASTIC RIBBON LOOPS

offered by the Wrapid Sales Corp., 37 W. 57 St., New York 19, provide a new method of retail sales-counter wrapping that requires no tying or cutting and wraps a box without loss of selling time. The new "Wrapid Ribbon" is reported to save at least 35 sec. wrapping time on each package in comparison with existing methods, cuts costs by 87½% and has



eye appeal for gift wrapping. Available in loops of varying lengths, it has more than a 50% stretch. A few standard sizes will fit all box dimensions needed in retailing. Wrapid Ribbon, on which patents are pending, is available in all standard colors, special colors and made-to-order designs.

A VERSATILE SEMI-AUTOMATIC FILLING MACHINE that fills food, cosmetic, dairy, chemical, paint and similar semi-liquid and semi-solid products into all types of containers, including tubes, has recently been developed by The Filler Machine Co., Inc., Philmont Club Station, Pa. This portable unit is reported to fill accurately between 15 and 55 containers per minute, depending on product and size of containers to be filled. It also can be cleaned easily and changed over quickly for different products and container sizes, according to the maker. All contact parts are of stainless steel. A variable speed drive permits wide speed range and a separate motor-driven agitator can be supplied for use with products that must be constantly mixed and forced into the measuring cylinder. The unit contains a 25-gal stainless steel hopper and is suitable for use in small or large plants where the expense of a fully automatic filler would not be justified for the work to be done.

POLYETHYLENE CONTAINER PRICE REDUCTION announced by Plax Corp., West Hartford, Conn., reduces the price of its Plaxpak polyethylene carboys and prime line stock squeeze bottles by an average of 10%. This reduction follows a 2% across-the-board price cut announced in May. New production methods and expanded production facilities, coupled with increased availability of raw polyethylene, are credited by Plax with making this price reduction possible.

A NEW BACON PACKAGE announced by Marathon Corp., Menasha, Wis., combines a transparent film window and high-gloss wax finish on the inside of the carton.

This new moderate-priced bacon packaging gives extra protection against rough handling in self-service cabinets, according to the supplier. The new "Bacon-Saver" package is of block construction that permits easy, regular stacking in display cases and has an "arrow-style" lock that furnishes positive closure and eliminates side movement of the lock panels. High-gloss wax coated inside and out, the package is said to give exceptional product protection and a sleek appearance. A transparent film window furnishes product visibility. The package is filled manually, which recommends it for small-volume producers. Its easy set-up, however, makes it suitable for large-volume producers.

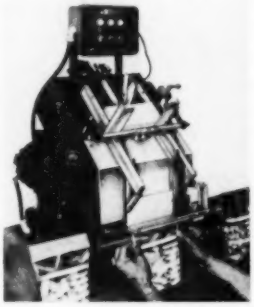
The new Bacon-Saver comes in three standard sizes for 1 lb. and three standard sizes for ½ lb. An optional flap over the transparent window of the carton is available to meet special merchandising situations.

Marathon also announces the availability of meat cartons, for

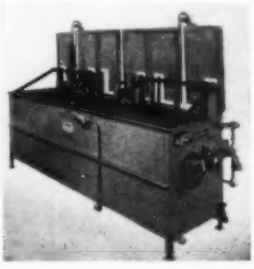
Equipment and materials

link sausage, luncheon meats, etc., that combine a transparent film window and high-gloss wax finish on the inside of the carton.

AUTOMATIC ADJUSTMENT FOR LABEL WIDTHS is a new feature built into the Amsco jaw bag-sealing labeling machine, manufactured by Amsco Packaging Machinery, Inc., 31-31 48 Ave., Long Island City, N. Y. A single hand-screw adjustment enables quick label change-over for different-width labels while centering the label in relation to the sealing jaws. This improvement, the manufacturer points out, is particularly desirable in making instant adjustment for small variations in any given stack of labels. Hopper mechanism of the machine has also been redesigned to facilitate loading of labels and permit uninterrupted production while the hopper is being restocked. Any heat-sealable bag material can be header labeled and heat sealed in one quick operation; non-heat-sealable bag materials can also be automatically header labeled when using thermoplastic label stock. It will accommodate practically all label sizes, shapes and materials, the maker states. Automatic hole-punching attachment is optional.



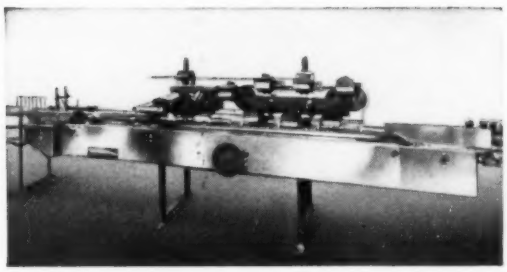
A NEW TRIPLE AUTOMATIC PARTS WASHER developed by the D. C. Cooper Co., 1467 S. Michigan Ave., Chicago 5, for cleaning metal parts, fingerprint neutralizing and rustproofing is reported to speed processing and packaging of spare parts. This new approved washer has three compartments, each of which is a complete tank; each has separate controls so that any one tank can be used independently of the other. Each compartment is equipped with a rack upon which spare parts are placed. By pushing a switch the rack is lowered to the bottom of the tank and automatically agitates the parts in the solution. By pushing a second switch, agitation stops and the rack rises flush with the top of the tank for unloading and reloading. The rack is raised and lowered by air pressure; all electrical connections are explosion-proof for safety. The manufacturer states that the new washer effects tremendous savings in manpower and plant space, is economical and safe to operate.



AN IMPROVED SHEET PLASTIC CYLINDER MAKER that is reported to effect substantial savings of time and materials for plastic fabricators has been introduced by the Taber Instrument Corp., 111 Goundry St., North Tonawanda, N. Y. Sizing is automatic with the new 1954 Taber sheet plastic cylinder maker. According to the manufacturer, this makes for greater uniformity of finished cylinders and practically eliminates rejects. The unit is also equipped with "Auto-size" expanding mandrels having a range of from 2½ to 8½ in. and new sliding gauges. Expanding mandrels and sealing bar are timed so that the cylinder is sized to the exact dimension desired just before the seam is sealed.

Forget about SIZE LIMITATIONS

WHEN YOU HAVE THE NEW Thrifty Labeler



A STRAIGHT-LINE MACHINE

Occupies only 11′ 10¾″ x 2′ 6″ of floor space
(Automatic feeder adds 18″ to length of basic machine)

The machine can be fed by hand or hooked up with your present capping and filling line.

Why use several machines, when ONE will handle your entire line? The new THRIFTY Labeler is adjustable for bottles from 1½″ to 6½″ in diameter, and from 2½″ to 12″ in height. Change-over is made in minutes. Speeds of from 40 to 120 a minute.

You obtain a *more distinctive looking* bottle, too, because this machine can apply a label to odd-shaped or recessed surfaces and *still produce a firm seal.* After the label is applied, a unique device applies continuing pressure to its entire surface. Holds the label firmly in place for a longer time than conventional labeling machines. Assures a strong bond and freedom from unsightly wrinkling. Hot-melt or thermoplastic adhesive may be used. Labels may be rectangular, round or fancy cut.

Low initial cost and high operating efficiency make the THRIFTY Labeler ideal for those labeling by hand as well as for plants now using machine labeling.

Write for complete information

PACKAGE MACHINERY COMPANY • Springfield, Massachusetts

NEW YORK CHICAGO BOSTON CLEVELAND ATLANTA DALLAS
DENVER LOS ANGELES SAN FRANCISCO SEATTLE TORONTO MEXICO, D.F.

PACKAGE MACHINERY COMPANY

Plants and people

Federal Paperboard Co., Inc., Bogota, N. J., has concluded arrangements for the purchase of a majority of the stock of **National Folding Box Co., Inc.,** New Haven, Conn. The present management of National will continue to operate the business as a subsidiary of Federal. National will acquire and operate the existing folding-carton manufacturing facilities of Federal, including plants in Bogota, N. J.; Versailles, Conn.; Steubenville, Ohio; and Palmer, Mass. The combined operation of Federal and National is expected to result in an organization capable of producing more than 225,000 tons of paperboard annually, and fabricating approximately 100,000 tons of paper into folding cartons.

Crown Zellerbach Corp. has appointed **Arthur L. Fox** as manager of sales promotion and advertising at the company's headquarters in San Leandro, Calif. **W. Z. Ritchie** has succeeded Mr. Fox as sales manager of the North Portland, Ore., plant. **Harry W. Huntsman** has been named assistant manager and sales manager of the San Leandro plant and **John J. McCann** is now acting sales manager of the Los Angeles plant.

A. L. Box

Warren E. Hill has been elected executive vice president of **Plax Corp.,** Hartford, Conn., manufacturers of polyethylene bottles and other plastic products. Plax is a subsidiary of **Emhart Mfg. Co.**

Leslie B. Gillie has retired as assistant director of sales for the Polychemicals Dept. of **E. I. du Pont de Nemours & Co., Inc.,** Wilmington, Del., after 38 years of service in the company. Mr. Gillie joined Du Pont in 1915 as a chemist at the Experimental Station in Wilmington. Subsequently, he served the company in various capacities and was associated with Du Pont's manufacture of Pyralin cellulose nitrate plastic, the company's first plastic. He also participated in the development of markets for Lucite acrylic resin, first introduced in 1936. Mr. Gillie has been succeeded by **Clarence D. Bell,** former marketing analysis manager.

Thomas Shem has been named advertising manager of **The Dobeckmun Co.,** Cleveland, Ohio.

Container Corp. of America, Chicago, has appointed **George W. Dodge** as manager of frozen food packaging, Eastern Folding Carton Sales, with headquarters in New York.

John G. Robinson has been elected chairman of the board of **California Container Corp.,** a wholly owned subsidiary of Container Corp. **Thomas F. Cass, Jr.,** and **Roy E. Fefley** have been elected vice presidents of the subsidiary. Other appointments in the subsidiary include: **Joseph R. Sumner,** plant manager of the company's two Los Angeles shipping container plants; **Stephen K. McGaffey,** sales manager, corrugated shipping container plant, Oakland, Calif.; **Jack E. Burness,** sales manager, corrugated shipping container plant, Portland, Ore. **Charles B. Bishop** is general manager of the two corrugated container plants operated in Los Angeles by California Container.

Frank G. Jones has been made general manager at the new corrugated container plant in Fernandina, Fla.

Henry J. Howlett will retire as president of **Container Laboratories, Inc.,** Chicago, to become a consultant to the organization. The new president will be **Charles J. Zusi,** now executive vice president. **Allyn Beardsell,** vice president, will be manager of the Eastern Div., with headquarters in New York. **Alfred Hoffman** becomes technical director of the company. **Harry Kattelmann** retains management of the San Francisco laboratory and **Thomas Wharton** directs the Washington office. **Jean M. Klein** has been elected secretary.

J. F. Fitzgerald has been elected an assistant vice president of **National Starch Products, Inc.,** New York. Mr. Fitzgerald, associated with the company for the past 18 years, has been manager of starch sales since 1948.

J. F. Fitzgerald

Joseph M. Callan has been named president of the Chicago Div. of **Einson-Freeman Co., Inc.,** Long Island City, N. Y., display lithographers. Mr. Callan was formerly vice president of Kling Studios, Chicago. Associated with Mr. Callan will be **Leroy Hopkins,** director of creative services, and **G. B. Frank,** sales. **Sam Gold,** Chicago vice president, will headquarter in Chicago, but will work with both New York and Chicago clients.

Cola G. Parker has been elected chairman of the board of **Kimberly-Clark Corp.,** Neenah, Wis. **John R. Kimberly** has succeeded Mr. Parker as president of the firm. **W. R. Kellett** has been elected executive vice president to succeed Mr. Kimberly and **F. S. Seaborne** and **W. H. Swanson** have been elected vice presidents of manufacturing and of research and development, respectively.

George W. Holt has been made sales manager of the **Pacific Coast Foil Co.,** a division of **Jorgenson & Co.,** San Francisco, rotogravure printer of foil. He formerly was with the Paterson - Pacific Parchment Co. and Marathon Corp.

G. W. Holt

Leonard Arthur Wheeler, Los Angeles packaging consultant and designer, has opened a branch office at 21 King St. East, Toronto 1, Ontario, Canada. The branch office will offer Mr. Wheeler's Canadian accounts more complete facilities and service. He will divide his time between Los Angeles and Toronto.

S. W. Antoville has been elected president of **United States Plywood Corp.,** New York, succeeding **Lawrence Ottinger,** former president and founder, who remains as chairman of the board of directors and chief executive officer.

A new paper converting firm, **Trophy Papers, Inc.,** has leased manufacturing space in the Parsons Div. of the Holyoke Water Power Co., Springfield, Mass. The company, formed by **F. A. Barr,** president, and **George C. Schmid,** treasurer, will engage in the precision lamination of papers, boards and various types of films and other materials for the paper trade.

Stone Container Corp., Chicago, has acquired full ownership of a paper mill at Mobile, Ala. Stone Container, which previously held one-half interest in the mill, has purchased the remaining one-half interest from Seaboard Container Corp., which will now operate as a division of Stone Container.

Adolph Gottscho, Inc., has opened a permanent display showroom in its plant at 6 Evans Terminal, Hillside, N. J., where visitors may see its code-dating and imprinting machines in operation.

Employees recently honored **Adolph Gottscho** at a dinner to celebrate his 75th birthday and the 50th year of his company's operation.

The Hart Co., package engineering firm, has been formed by **Cy Hart** and his son,

(*This article continued on page 184*)

Better see H&D!

Easy to set up and pack, this Heavy-Duty corrugated box provides extra product protection and identification. For valuable packaging information—write for booklet, "Creative Packaging Engineering." Hinde & Dauch, Sandusky 4, Ohio.

Our 65th Year

H&D®

HINDE & DAUCH

17 MILLS AND FACTORIES • 40 SALES OFFICES

They are probably all tempting to you, and they all have one thing in common — they all have been wrapped by *heat seal methods.*

The economies and advantages of heat seal methods are well known. ARCCO offers paper, film and foil converters, a commercially proven line of specialty heat seal coatings and adhesives. They are available in emulsion, solution, and hot melt types and can generally be applied with your present equipment.

They can be engineered to possess various characteristics to suit your particular requirements. An ARCCO engineer will be happy to work with you. Write for data sheets.

ARCCO 1044-29A — Universal Heat Seal Coatings for Glassine, Paper, Aluminum Foil and Cellulose Acetate. Data Sheet C-66.
ARCCO 1044-31 — Heat Seal Coating for Candy Bar Wraps. Data Sheet C-66.
ARCCO 716-6 — Heat Seal Spot Coating for Waxed Glassine. Data Sheet C-66.
FOILAC 1261-12C — (Clear) Solution Coatings for Metal Foils. Data Sheet C-61-R.
ARCCO 1044-27A — **ARCCO 1044-27B** — Heat Seal Greaseproof Resin Emulsion Coatings. Data Sheet A-43.
ARWAX 717-46B — Hot Melt — paraffin wax additive for improved heat seal and improved water-vapor resistance. Data Sheet C-71.

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AMERICAN RESINOUS CHEMICALS CORPORATION

RESIN EMULSIONS, SOLUTIONS AND HOT MELTS FOR ADHESIVE BASES, BINDERS, COATINGS, SIZES AND SATURANTS

GENERAL OFFICES: 103 Foster Street, Peabody, Massachusetts

A MESSAGE FOR THE MAN WHO WANTS TO SAVE MONEY ON HIS PACKAGING

While we do not believe the special types of envelopes we make are the universal answer to all packaging problems, we do know and can demonstrate that they offer ideal protection and display for many items at substantially less cost than you are probably paying for your current containers.

Cost-conscious packagers in many lines of business use specially constructed envelopes, designed and manufactured by P. L. Andrews Corporation.

We can show you how to make your packaging dollars go further. Why not find out how?

No obligation.

P. L. ANDREWS CORP.

1328 Broadway • New York 1, N. Y.
The House of Envelope Specialties

Faster Capping

To get greater line speeds, you need a cap that will take the punishment of higher speeds without raising the level of your "normal" cap breakage. And that's just what Armstrong's Hi-Tork® Caps have been designed to do.

You'll be amazed at the beating these caps will take. One big reason, of course, is that they're heavier (weigh them and see). But more important is their special design. Dome, thread, and skirt are designed to handle exactly the share of the load each must take. And a simplified external design eliminates projections that could chip, break off, or cause hang-ups.

A test run on your own equipment will quickly show how Hi-Tork Caps can help you get extra production from your lines. We'll gladly arrange for performance tests in your plant. For details, contact your nearest Armstrong office or write Armstrong Cork Co., Glass and Closure Div., 5310 Crystal St., Lancaster, Pa.

ARMSTRONG'S *"HI-TORK"* MOLDED CAPS

Plants and people

(This article continued from page 180)

Peter Hart. Offices are at 213 S. Myrtle Ave., Clearwater, Fla. The company's operations will cover Florida and southern Georgia. Peninsular Package Products, Gordon Cartons and Pack-Rite Machines are represented by the new firm.

John C. Leighton, Frank J. Roderus and **Robert Tharinger** have been appointed to the national sales staff of **Milprint, Inc.**, Milwaukee, Wis.

Milprint has added a Mexican company to its foreign affiliates. The new company, called **Milprint de Mexico, S. A.**, is located at Monterrey, Nuevo Leon.

Seward Industries, Inc., is now located in new quarters at 68 18 St., Brooklyn 32, N. Y. The firm rebuilds standard-make electronic heat-sealing equipment.

The dedication in Pittsburgh last month of **Aluminum Co. of America's** new 30-story building marked completion of America's first aluminum skyscraper, the lightest building for its size ever built. Twenty-five floors of this ultra-modern structure are now occupied by Aluminum Co. of America; the balance has been rented to tenants. Begun in May, 1950, the Alcoa Bldg. claims more building innovations than any other structure of modern times. Its exterior walls are sheathed with aluminum panels. Its aluminum window frames are reversible for cleaning from inside the building. Offices are heated and cooled from aluminum ceilings.

Aluminum Co. of America's new office building in Pittsburgh

Schnur-Appel (formerly Martin Schnur Associates), design consultants, have acquired new offices at 2165 Morris Ave., Union, N. J. Principals of the firm are **Martin Schnur** and **Mel Appel.**

Traver Corp., Chicago, has announced that its recently patented process for treating polyethylene prior to printing for more lasting adherence of printing inks, has now been licensed to several extruders and converters. The process is reported to enable polyethylene to be printed by standard methods, equipment and inks without contaminating or affecting the film in any other way.

R. H. McKay

Kehr Products Co., Philadelphia, Pa., has appointed **R. H. McKay** as assistant sales manager in charge of potato chip industry sales. Mr. McKay is well known in the industry because of contacts developed in the past.

Rossotti California Lithograph Corp., San Francisco, has appointed **Howard L. Wittenberg** sales manager, with headquarters at San Francisco. **William B. Stevenson** has been added to the Rossotti sales force in Los Angeles.

Foster D. Snell, Inc., New York, consulting chemists and engineers, have formed an Engineering Physics Dept. within the Engineering Div. **Walter L. Hardy** and **Joseph P. McGill** are in charge of the new department, which will study shock and vibration and their effect on packaged and unpackaged instruments and delicate equipment.

Union Chemical Corp., specialist in collapsible tube enamels, Newark, N. J., has appointed **Delton Ezell** to be in charge of research and manufacturing. **Joseph F. Mulherin** has joined Union Chemical to be in charge of plant production.

Ed Lee has been elected a director of **W. L. Stensgaard & Associates, Inc.**, Chicago, filling the vacancy created by the death of **A. C. Stensgaard.** Mr. Lee is in charge of the firm's Central-Northwestern region.

John P. Clifford, vice president of **Richardson Scale Co.**, Clifton, N. J., has retired after almost 50 years of service with the company. A pioneer in the field of automatic weighing, bagging and proportioning, Mr. Clifford will continue to serve Richardson Scale as a consultant.

American Can Co., New York, has elected **G. H. McVean** to the newly created position of vice president in charge of operations in Canada. Mr. McVean, former manager of sales for American Can's Canadian Div., succeeds **Gordon Mann,** who has retired as general manager of the Canadian Div. after 34 years of service.

Dr. Berton S. Clark, scientific director at American Can, has been appointed a member of the Food and Nutrition Board of the **National Research Council.** Dr. Clark is also chairman of the Research

The Greatest Packaging Development of the Century!

Ekco-Foil, the wonderful new preshaped aluminum foil package, offers advantages no other packaging material can duplicate! You can prepare your product in Ekco-Foil . . . freeze or refrigerate it in Ekco-Foil . . . then sell it in the same attractive Ekco-Foil package. Labor costs go way down . . . and sales go way up! Your bright silver Ekco-Foil package promises quality and convenience to Mrs. Consumer. She just reheats and serves your product right in its Ekco-Foil package. And she can reuse the package too!

Ekco-Foil makes it practical for you to take advantage of this new packaging material right now, because Ekco-Foil is available for immediate delivery in every size and shape you need! Only Ekco has a complete selection! Only Ekco can make your foil pan-packages in any quantity!

Ekco-Foil has never failed to raise sales for any product. Why not see what it can do for you!

VALUABLE COUPON

MP-10

EKCO Products Company, Industrial Foil Division
1949 N. Cicero Avenue, Chicago 39, Illinois

( ) Please send Bulletin and samples.
( ) Please have representative call.

FIRM_____

NAME AND TITLE_____

ADDRESS_____

CITY_____ ZONE____ STATE____

We are interested in Ekco-Foil for packaging_____
please list products

Plants and people

Council's committee on packing, packaging and preservation and a member of the Council's advisory board on quartermaster research and development. In addition, Dr. Clark recently became president of the Institute of Food Technologists.

George A. Johannessen has been named agronomist for American Can's Pacific Div. in San Francisco. Dr. Johannessen will assist customers in efforts to solve canning crop production problems. He succeeds **W. C. Hatfield**, recently appointed to the Canco sales staff.

C. V. McMains has been named manager of tobacco foil sales for **Aluminum Co. of America**, Pittsburgh, Pa. Mr. McMains will headquarter in New York.

William P. White has resigned as president of **White Cap Co.**, Chicago, manufacturers of caps and sealing machines. He retains his membership on the board of directors and the executive committee. **P. O'C. White** has been elected president of the firm and will continue to head up the Research and Field Engineering Divisions. **George P. White**, chairman of the executive committee and director of sales, has been elected to the newly created office of chairman of the board. **Robert P. White**, elected secretary of the company, continues his sales activities.

W. P. White

The Packer Machinery Corp., New York, has appointed the following representatives to handle its line of liquid-filling machines: **J. B. Bellamy & Co.**, San Francisco; **Don Larson Packaging Machinery**, St. Louis and Kansas City, Mo.; and **Penn Bottle & Supply Co.**, Philadelphia, Pa.

The Nox-Rust Chemical Corp., Chicago, manufacturer of petroleum chemicals and rust-preventive products, has moved its manufacturing facilities to 47 St. and Central Ave. Executive and sales offices have moved to 333 N. Michigan Ave.

Owens-Illinois Glass Co.'s Container Div. has promoted **James E. Aydelotte**, branch manager in Memphis for 13 years, and **James C. Chiles**, branch manager in Omaha for 15 years, to special representatives in their respective territories.

Clay Roff is now branch manager in Memphis. In Omaha, **Oscar G. Kohl** serves as branch manager.

At the company's new Technical Cen-

Makes good merchandise sell better . . .

Kodapak Sheet

"Kodapak" is a trade-mark.

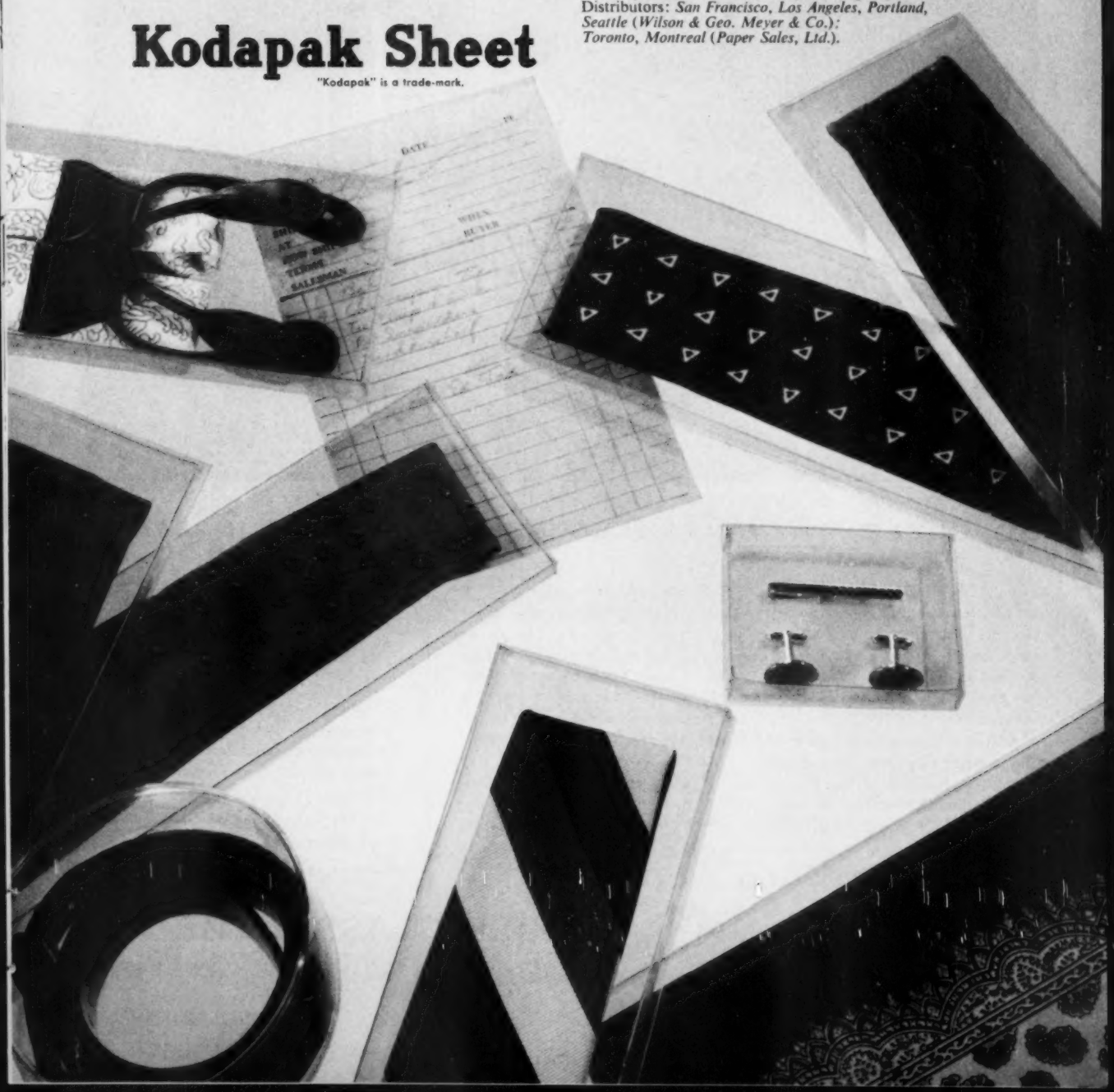
Here's fine haberdashery that has the "Million-Dollar Look" . . . the magic of packaging in crystal-clear Kodapak Sheet . . . that gives any fine merchandise that fresh new look on counters and shelves . . . that produces profit-building sales volume day after day.

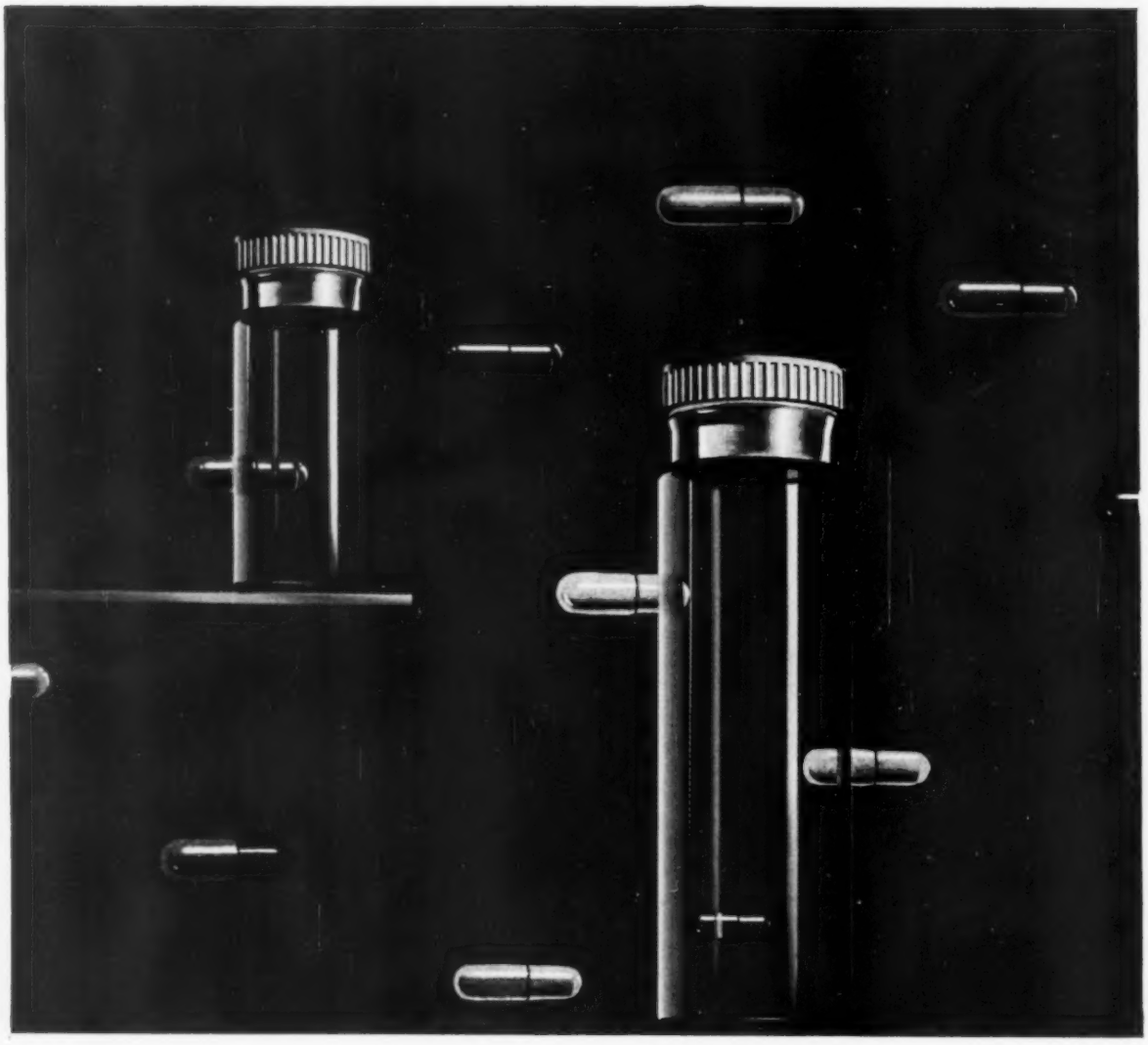
The secret of this magic is Kodapak Sheet's brilliant transparency . . . its freedom from distracting bubbles and surface defects. Of vital importance to the boxmaker, too, is Kodapak Sheet's gauge uniformity . . . resulting in greater production economy, fewer rejects, and easier handling.

For further information, including technical data and names of specializing firms, consult our representative or write:

Cellulose Products Division
Eastman Kodak Company, Rochester 4, New York

Sales offices: *New York, Chicago, Dallas.*
Sales representatives: *Cleveland, Philadelphia, Providence.*
Distributors: *San Francisco, Los Angeles, Portland, Seattle (Wilson & Geo. Meyer & Co.); Toronto, Montreal (Paper Sales, Ltd.).*





SO CLEAR, THE CAPSULES SEEM TO FLOAT IN SPACE

Kimble Opticlear Vials are made of such extremely clear glass that their contents virtually seem to float in space. That is part of the classic beauty of these vials especially designed for fine prescriptions and fine pharmaceutical products.

Adding to their efficiency in repelling moisture that sneaks through the sidewalls and bottoms of some types of containers, is a moisture-proof closure especially engineered for Kimble Opticlears, that is moisture-proof beyond anything else in the market.

Opticlears' easy-in and easy-out closures, clear and sparkling glass have helped make outstanding sales successes for a broad and varied assortment of pharmaceutical and proprietary tablets and capsules, fancy food items, spices and advertising novelties.

Kimble Opticlear Vials are only one of many Kimble contributions of engineered glass products to the nation.

Kimble Serves—with Glass

KIMBLE PRODUCTS

Color-Break Ampuls ... Insulux Glass Blocks ... Laboratory Glassware ... Thermometers and Hydrometers ... Towel Bars ... Glass Rod and Tubing .. Chemically Resistant Glassware ... Custom-made Bottles ... Pressed Glassware ... Clinical Glassware ... Opticlear Vials ... Television Bulbs ... Communication and Power Insulators

KIMBLE GLASS COMPANY

Toledo 1, Ohio—*Subsidiary of Owens-Illinois Glass Company*

Plants and people

ter, now under construction, **Joseph Hamilton**, as assistant director of research, will be responsible for activities in the General Research Division connected with process and machine development in the forming and handling of glass; he will also direct studies on glass raw materials, refractories, glass melting and pilot-plant furnace design. **William P. Milbratz**, as chief construction engineer, will handle installations for glass manufacturing operations. **R. H. Olson**, as coordinator of engineering development, will coordinate engineering development work.

The establishment of the **County Paper Co.**, 134 Harmon Dr., Larchmont, N. Y., wholesale distributors of paper and packaging, has been announced.

A. Ballard

Alexander Ballard has joined **Peerless Tube Co.**, Bloomfield, N. J., in an executive capacity. Mr. Ballard was formerly associated with Sun Tube Corp. and is well known in the tube industry which he has served many years.

Lord Baltimore Press, Baltimore, Md., has copyrighted the names Par-A-Glo and Par-A-Vel to identify its two wax carton finishes.

Daniel Caust has been made sales promotion manager of **Lily-Tulip Cup Corp.**, New York.

Kliklok Corp., Wilton, Conn., has completed construction of its new plant at 611 Broadway, Redwood City, Calif.

Eugene H. Kling has resigned as general manager of the Klingrose Div., **American Type Founders.**

Holyoke Card & Paper Co., Springfield, Mass., has announced the resignation of **F. Allan Barr** as vice president and director of the company. **George C. Schmid**, technical director, has also resigned.

Fibreboard Products, Inc., San Francisco, has appointed **Ralph P. McDonald** as general production manager. **Dr. R. W. K. Ulm** succeeds Mr. McDonald as assistant resident manager of the Antioch Div.

Better Packages, Inc., manufacturer of sealing tape machines, Shelton, Conn., has announced the following territorial changes in personnel: **O. K. Hill**, general manager of Better Packages of Canada, Ltd.; **Al Smith**, manager of the Chicago

Plants and people

branch office; **Jack Murphy,** distributor for eastern Pennsylvania; **Floyd C. Smith,** distributor for the Maryland-Virginia area; **Bill Chilton,** distributor for Connecticut; and **Bill Turner,** distributor in North and South Carolina.

Arkell & Smiths, Canajoharie, N. Y., manufacturer of multiwall paper bags, has appointed **John O. Frahm** to its sales staff to cover Oklahoma and northern Texas. **Frank Smith** has been made southern division sales manager and **Roger Seymour** is sales representative for the central division at Columbus, Ohio.

American Machine & Foundry Co., New York, has appointed **A. M. Willson** as southeastern sales representative of the company's Bakery Div. Mr. Willson will handle the complete line of AMF and AMF-Union bakery machinery and ovens in Alabama, Tennessee, South Carolina, North Carolina, Florida, Georgia and Mississippi, with headquarters in Atlanta.

Stewart Hoagland has been appointed manager of corporate advertising and promotion for **Interchemical Corp.,** New York, manufacturers of printing inks, industrial finishes, textile colorants and other chemical coatings. Mr. Hoagland has been associated with Interchemical since 1938.


S. Hoagland

Chase Bag Co., Chicago, has promoted **J. R. Peat** to sales manager of its St. Louis branch.

Champion Bag Co.'s offices and converting plant are now located at 160 N. Loomis St., Chicago 7, Ill.

Albert R. Jasuta has joined the Production Research Dept. of **Bristol-Myers Products Div.,** Hillside, N. J. Mr. Jasuta will handle container development.

Standard-Knapp, Div. of Emhart Mfg. Co., Portland, Conn., has appointed **L. F. Shattuck** general sales manager. Mr. Shattuck succeeds **E. H. Schmitz** who has resigned to become general manager of **Wilcox, Crittenden & Co., Inc.**

National Can Corp., New York, has announced the start of an expansion program for its Hamilton, Ohio, plant.

The Goodyear Tire & Rubber Co., Akron, Ohio, has transferred **Dan Lewis, Jr.,** special field sales representative in the

Plants and people

Chemical Div., from Dallas, Tex., to Houston. Mr. Lewis will provide service and technical information in Texas, Arkansas, Louisiana and Oklahoma.

Fulton Bag & Cotton Mills, Atlanta, Ga., has purchased the Savannah plant of **Mente & Co.** The plant will give Fulton a manufacturing location on the East Coast to serve the Southeast.

Ray Ketchmark, formerly in charge of the labor relations and safety work with the **Folding Paper Box Assn. of America,** Chicago, has been appointed central group secretary and will, for the time being, carry on the duties connected with the labor relations and safety committees. Mr. Ketchmark is replacing **Daniel M. LeHockey** who is resigning to enter private industry.

R. Ketchmark

Edward E. Kuphal has joined **Economics Laboratory, Inc.,** St. Paul, Minn. He will take charge of the company's three factories in Chicago, Lyndhurst, N. J., and Santa Clara, Calif.

Eagle Chemical Co., Joliet, Ill., has announced that its Mobile, Ala., plant has reached full production capacity in manufacturing clay-type desiccants.

Chester Packaging Products Corp., Yonkers, N. Y., extruders of plastic films, has formed a new division known as **Chesflex Corp.** Chesflex will produce and market plastic pipe and industrial products. **Stevens Rudd** is general manager.

Crossett Paper Mills, a division of **Crossett Lumber Co.,** Crossett, Ark., has announced plans for a new bleached board mill scheduled for completion in mid-1955. The new operation will produce about 150 tons of board daily for packaging food and related items.

James E. Carrel has been promoted to West Coast sales manager for Container Products Div. of **Dewey & Almy Chemical Co.,** Cambridge, Mass. He will be assisted by **Robert D. Fitzgerald.**

Ray S. Maxwell, eastern representative for **The Dill Mfg. Co.,** Cleveland, Ohio, for the past 25 years, died at his home in Danbury, Conn., on Aug. 11.

The reason is simple.

DANIELS does not compromise with quality.

In *design, material and craftsmanship,* every detail that is important to you is also important to us.

We invite Inquiries

Daniels
MANUFACTURING CO.
RHINELANDER, WISCONSIN

There is a **DANIELS** product to fit your needs printed in sheets and rolls . . . transparent glassine • snowdrift glassine • superkleer transparent glassine • lard pak • bacon pak • ham pak grease-proof • sylvania cellophane • laminated papers • special "Heat-Seal" papers.

PREFERRED PACKAGING SERVICE

SALES OFFICES: Rhinelander, Wisconsin
Chicago, Illinois . . Philadelphia, Pennsylvania . . Akron, Ohio
Denver, Colorado . . Dallas, Texas . . Los Angeles, California

creators · designers · · multicolor printers

For your information

Theme of the 47th annual exhibit of the **Canning Machinery & Supplies Assn.**, to be held Jan. 23-27 at Convention Hall, Atlantic City, will be "The Canning Industry's Shows of Shows; A Show Like TV—To Hear and See." Exhibit hours will be 10 a.m. to 5:30 p.m. daily except Sunday (1 to 5:30 p.m.) and Wednesday (10 a.m. to 3:30 p.m.). Plans for the Technical Conference, which will be expanded and enlarged for the 1954 conclave, are being worked out cooperatively by the C.M. & S.A. and the National Canners Assn.

The 24th biennial **Exposition of Chemical Industries,** to be held Nov. 30-Dec. 5 at the Commercial Museum and Convention Hall, Philadelphia, will occupy a space 40% greater than that of the last display held in New York two years ago. Nearly 500 exhibitors have already engaged space for the event. The exposition is again being managed by the International Exposition Co., 480 Lexington Ave., New York 17.

A round-up of the latest general information on Herucules cellulose acetate is contained in the new edition of **Hercules Powder Co.**'s basic technical booklet entitled "Hercules Cellulose Acetate." Data on many new solvents, plasticizers and resins which are used with cellulose acetate are included in the section on properties of the material. The section on uses includes considerable new information about acetate specialty lacquers, including heat-resistant paper lacquer. For copies of the booklet, write to Hercules Powder Co., Inc., Cellulose Products Dept., Wilmington, Del.

Both American and European authorities on distribution will address the **Boston Conference on Distribution,** to be held at the Hotel Statler, Boston, Oct. 19-20. The event is sponsored by the Retail Trade Board of the Boston Chamber of Commerce in cooperation with the Harvard University Graduate School of Business Administration, the Boston University College of Business Administration, the Massachusetts Institute of Technology and others. Subjects to be covered by speakers include retailing, business and foreign policy, economics, manufacturing, apparel, marketing research and distribution.

The Paper Cup & Container Institute has been presented the Grand Award for Distinguished Service, given to large national associations each year by the **American Trade Assn. Executives,** for its 1951-1953 program of cooperation with Federal Civil Defense, American Red Cross and local public health authorities throughout the nation. **Sinclair Weeks,** Secretary of Commerce, heading the jury of awards, cited the Institute's establishment of stockpiles of 25 million paper cups and containers, donated by the Institute, at 20 locations in the United States for emergency disaster use by public agencies.

An evaluation of the visual aspects of package design with a view to selling a specific product is the thesis of a new book entitled **"Package Design: The Force of Visual Selling"** by **Ladislav Sutner** (Arts, Inc., New York; $9.75). The 128-page book contains 545 illustrations covering a wide range of package types, each of which is examined for its visual selling force. Mr. Sutner, formerly professor of design and director of the State School of Graphic Arts in Prague, now heads his own design firm in New York. The American Institute of Graphic Arts has chosen Mr. Sutner's new book as one of the "Fifty Books of the Year."

Now available from the **American Management Assn.** are three booklets containing papers presented at the 1953 AMA Packaging Conference this spring: Packaging Series No. 41, "Aids to Efficient Packaging Operations"; Packaging Series No. 42, "Advances in Packaging Material and Design"; Packaging Series No. 43, "Practical Problems of Packing and Handling." Copies, priced at $1 each to members and $1.25 to non-members, may be requested from the American Management Assn., 330 W. 42 St., New York 36.

Results of a survey conducted among 180 AMA member companies by **Richard D. Crisp** of Tatham-Laird, Inc., have been published by the American Management Assn. in a 64-page book entitled "Company Practices in Marketing Research" and designated as Research Report No. 22. The study indicates that methods of determining sales potentials may be the weakest area in present-day marketing research practice. Copies of the book are available from the association at $1.75 each for members and $2.50 for non-members.

The **AMA's National Manufacturing Conference,** to be held at the Bellevue-Stratford, Philadelphia, Oct. 28-30, is expected to have an attendance of over 800 manufacturing executives. Production for a buyer's market will set the keynote of the meeting.

Preliminary plans are being made for the **10th International Printing, Machinery & Allied Trades Exhibition,** to be held in London, July 5-16, 1955. It will be the first postwar exhibition in the United Kingdom devoted solely to the printing and allied trades and is expected to cover an area of about 250,000 sq. ft. Promoted by the **Assn. of British Mfrs. of Printers' Machinery (Pty.), Ltd.,** the exhibitions are said to have become recognized in the

Whats doing?

Oct. 15-16—**Fibre Drum Mfrs. Assn.,** mid-year meeting, Statler Hotel, Boston.

Oct. 19-22—**Society of Industrial Packaging & Materials Handling Engineers,** 8th Annual Exposition, Technical Short Course and Protective Packaging and Materials Handling Competition, Mechanics' Hall, Boston.

Oct. 19-20—**Boston Conference on Distribution,** Statler Hotel, Boston.

Oct. 20-22—**American Society for Testing Materials Commission,** Hotel Kenmore, Boston.

Oct. 21-23—**Label Mfrs. National Assn.,** Edgewater Beach, Chicago.

Oct. 24-28—**American Bakers Assn.,** trade show and annual meeting, Sherman Hotel, Chicago.

Oct. 25-28—**National Beer Wholesalers Assn. of America, Inc.,** Waldorf-Astoria, New York.

Oct. 26-27—**National Pickle Packers Assn.,** Drake Hotel, Chicago.

Oct. 28-30—**A.M.A. Conference on Manufacturing,** Bellevue-Stratford Hotel, Philadelphia.

Nov. 2-4—**National Assn. of Mfrs. of U.S.,** Waldorf-Astoria, New York.

Nov. 3-5—**Canadian National Packaging Exposition,** Automotive Bldg., Toronto, Ontario.

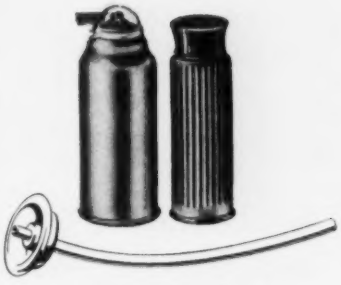
Nov. 4-7—**Industrial Management Society,** Sheraton Hotel, Chicago.

Nov. 9-11—**Grocery Mfrs. of America, Inc.,** 45th annual meeting, Waldorf-Astoria, New York.

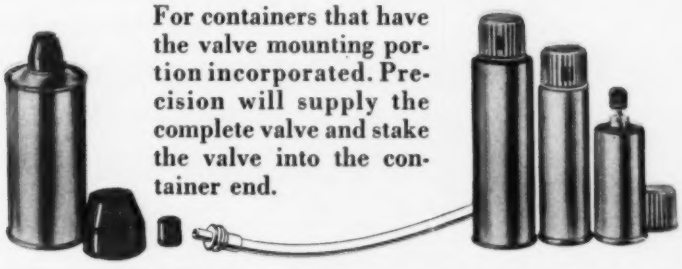
Nov. 9-12—**American Bottlers of Carbonated Beverages,** 35th annual convention, (in conjunction with 1953 International Soft Drink Industry Exposition), Chicago International Amphitheatre, Chicago.

THE *Aerosol Valve* FOR YOUR PRODUCT *by Precision*

Complete assembled cup type valve for any one inch opening aerosol container. For all aerosol products. Protective domes offered in various colors.

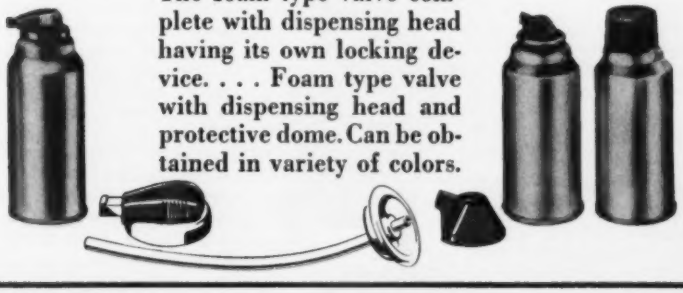


Offered to those who prefer to use their own button design for aerosols or their own dispensing head for foam products.



For containers that have the valve mounting portion incorporated. Precision will supply the complete valve and stake the valve into the container end.

Glass container aerosol valve, complete with button and protective dome.



The foam type valve complete with dispensing head having its own locking device. . . . Foam type valve with dispensing head and protective dome. Can be obtained in variety of colors.

[redacted] has the answer to your aerosol program regardless of product, container, or filling method.

We invite your inquiry to enable our staff of aerosol valve technicians to work cooperatively in satisfying your valve requirements.

PRECISION

Precision Valve Corporation

700 NEPPERHAN AVENUE • YONKERS 3, NEW YORK

Best Solution for "Problem Packaging"

GIVE THIS NEW NONWOVEN FABRIC THE EYE!

If you're in the food business, a packer, a chemical processor, or other activity where you are confronted with "problem packaging", it will pay you to look into VISKON nonwoven fabrics. Chances are, your competitors already have.

VISKON nonwoven fabric gives you all the advantages of standard packaging materials—with plenty of PLUS! When you need porosity, absorption, diffusion, infusion, and high wet strength, you need VISKON—the amazing new multi-purpose nonwoven fabric.

VISKON is available in mill rolls, tapes, or sheets. In a variety of weights and grades...either cotton or rayon fabric. VISKON provides you with new and better ways to present your product to the consumer. Give VISKON the eye—today!

1. Heat Sealable 2. High Porosity
3. Soft—Flexible 4. Non-Toxic
5. Can Be Printed 6. Durable 7. Economical
8. Wide Variety of Sizes—Weights—Colors
9. Resists Deterioration
10. Lint Free—Won't Unravel

Mail coupon today

VISKON
NONWOVEN FABRIC
another product for modern industry by THE VISKING CORPORATION

THE VISKING CORPORATION,
Dept. MP-10
Box 72, North Little Rock, Arkansas

Please send more information about VISKON for use as a product container.

NAME.....
POSITION.....
COMPANY.....
ADDRESS.....
CITY.....ZONE.....STATE.....

Manufacturers of

TRANSPARENT ROUND BOXES

Metal Bottoms
Cardboard Bottoms
for

- Confectionery
- Nuts
- Pencils
- Matches
- Jewelry
- Combs
- Notions
- Cosmetics
- Toys
- Underwear
- Brushes
- Bootees
- Flowers
- Dolls
- Industrial Uses

Gold Stamped • Screened • Printed

Packaging Experts

AMERICAN CELLUBOX CORP
476 Broome St., N. Y., N. Y.

FASTER PACKAGING WITH THIS PORTABLE BAGGER

EASY TO USE LOW IN COST

Designed to handle bagged products with a minimum of effort at a maximum speed. Simple adjustments for height... tilting forward or backward enables operator to set machine at easiest position. Stainless steel trough with capacity of 200 bags. Adjustable to bag sizes. Blower keeps bag clean and free from foreign matter.

Send today for Bulletin No. 10-29

ROCKFORD Anderson BROS. MFG. CO. ILLINOIS

ANDERSON BROS. MFG. CO., ROCKFORD, ILLINOIS

For your information

international world as the center for study of technological progress in the field and an interchange of ideas on production and the aesthetics of printing. Inquiries on the exhibit should be addressed to **F. W. Bridges & Sons, Ltd.**, Grand Bldgs., Trafalgar Sq., London W. C. 2, England.

Samples and descriptions of basic grades of the **Rhinelander Paper Co.**'s glassine, greaseproof and specialty papers are contained in three attractively bound 3-by-9-in. sample books packaged in three-color folders. These Rhinelander Swatch Books are designed to help the purchaser of these papers to compare the various grades as an aid in selecting the one closest to his needs. Requests for the booklets should be addressed to the Rhinelander Paper Co., Rhinelander, Wis.

A number of package-material suppliers are scheduled to be among the 150 exhibitors at the **Second Advertising Essentials Show** to be held at the Hotel Biltmore, Nov. 16-18. The show is announced as a practical way to provide more selling time for the salesman and more buying time for the buyer. Last year more than 6,000 advertising-agency buyers and advertising-department executives attended the show. Guest tickets and exhibitor information may be obtained through the **Advertising Trades Institute, Inc.**, 270 Park Ave., New York 17.

Space commitments and estimated registration for the **2nd Canadian National Exposition,** to be held in the CNE Automotive Bldg., Toronto, Nov. 3-5, indicate that this will be the largest non-public trade show of its kind ever held in Canada. To be held concurrently with the Exposition is the **Annual Conference** sponsored by the **Packaging Assn. of Canada.** Some 252 display units will occupy 110,000 sq. ft. of space. Highlights of the show include a special exhibit on packaging for the Armed Services; entries in the 1953 Canadian Consumer Package Competition and the 1953 Canadian Industrial Containers Competition; exhibition of the 58 prize winners of the 1953 Folding Carton Competition sponsored by the Folding Paper Box Assn. of America. Conference sessions will cover the following subjects: "Industrial Packaging and Materials Handling," "Consumer Package Design" and "Bringing Four Important United States Trends to Canada." Fees for the Conference are $3 per session for members and $4 per session for non-members. The PAC annual banquet will be held Tuesday Nov. 3, in the King Edward Hotel.

U. S. patents digest

This digest includes each month the more important patents of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 25 cents each in currency, money order or certified check; postage stamps not accepted. Edited by H. A. Levey

Box-Making Machine, W. F. Linstedt (to Kraft Foods Co., Chicago, Ill.). U.S. 2,645,984, July 21. In box-making apparatus the combination of means for supporting a supply of collapsed trays in inverted position, reciprocable means embodying a plurality of tray-engaging elements adapted to engage the trays successively to advance them step by step along a predetermined path of travel.

Packaging Means, E. B. Whitehead (to Atlantic Carton Corp., Norwich, Conn.). U.S. 2,646,165, July 21. A collar for spacing the upper body region and shoulder thereabove and upper reduced neck of a Thermos bottle from adjacent and opposite side walls and end closure of a carton.

Container Closure, F. G. Pellett (to Owens-Illinois Glass Co., a corporation of Ohio). U.S. 2,646,183, July 21. In combination, a container having an annular wall defining an opening and a sealing surface, a closure provided with engaging means, complementary means on the annular wall of the container for engaging the means on closure, a liner positioned within said closure and comprising a cushion disk, a thin coating of wax constituting a continuous film coating formed on one side of the cushion disk, coating comprising a mixture of petroleum wax and paraffin wax.

Label Machine, C. Ouellette (to Wrap-King Corp., West Springfield, Mass.). U.S. 2,646,184, July 21. Mechanism for heating softenable adhesive on labels comprising a support, a drum rotatable relative to support on a horizontal axis having a label-supporting cylindrical face concentrically related to axis for carrying a label having heat-softenable adhesive on an outermost side thereof, a heater secured to support and disposed relative to drum face.

Container With Insert, J. W. Meinhardt (to Gaylord Container Corp., St. Louis, Mo.). U.S. 2,646,201, July 21. A paperboard container having two upstanding side walls, horizontal top and bottom walls connecting the side walls, one end of container having a vertical wall constituting openable closure means thereat, a paperboard container reinforcing and partitioning insert therein.

Flap Locking Device for Container Inserts, C. F. Givvong (to Gaylord Container Corp., St. Louis, Mo.). U.S. 2,646,202. July 21. A folded blank container comprising a bottom panel and opposed side-wall panels having marginal cover flaps that are overlapped for forming a two-ply top-wall panel, one of cover flaps having a tab foldably connected thereto substantially at a corner thereof.

Bag, C. V. Brady and R. J. Williams (to Bemis Bro. Bag Co., St. Louis, Mo.). U.S. 2,646,203, July 21. A bag comprising a tubular lower section made of imperforate bag material and formed with a bottom, lower section having flaps at its upper end and a tubular upper section made of perforate material allowing for ventilation and viewing of the bag contents.

Carton-Filling Machine, E. A. Wahl and W. Boehl (to P. Ballantine & Sons, Newark, N.J.). U.S. 2,646,656, July 28. A machine for filling cartons of the open-ended type with containers, said machine comprising means for advancing the cartons along an endless path, having a plurality of fixed rails constituting container guide means extending along sides of path.

Filling Machine with Endless Belt Conveyors for Fibrous Materials, M. Goldberg and R. J. Goldberg, New York, N. Y. U. S. 2,646,913, July 28. In a machine for feeding and stuffing fibrous materials into casings, comprising an open-top chamber for receiving fibrous materials, and an endless conveyor comprising pronged carrier bars movably mounted on the floor of said chamber, said prongs being in spaced-apart relation over the entire length of carriers.

Reinforced Tray, C. E. Claff and C. A. Moeller (to Norfolk Paper Co., Inc., Randolph, Mass.). U.S. 2,646,914, July 28. A box comprising a bottom, sides having inturned end extension and ends adhesively secured to said extensions, all integrally formed from a single layer of cardboard.

Folding Box, A. Bockmann, Chicago, Ill. U.S. 2,646,915, July 28. A receptacle formed from a single sheet of material cut, scored and folded along predetermined lines to provide a container of truncated pyramidal shape having a bottom panel and an even number of upwardly and inwardly inclined sides with alternate sides of like formation, all sides sloping inwardly at an angle less than 90 deg.

Corner Construction for Folding Boxes, R. B. Meller (to Bemiss-Jason Co., San Francisco, Calif.). U.S. 2,646,916, July 28. A glueless corner construction for folding boxes, comprising a base panel, a first wall panel hingedly extending from the base panel along a first base fold line, a second wall panel hingedly extending from the base panel along a second base fold line, first wall panel having an internal cut of bent outline therein forming an internal tongue in said first panel.

Wrapper for Articles of Merchandise, E. A. Wilsher and E. C. Roh, Grand Rapids, Mich. U.S. 2,647,334, Aug. 4. A bread wrapper comprising a sheet adapted wholly to encase a loaf of bread and having a legend-bearing portion girdling the loaf of bread and conveying the idea and the price of fresh bread on its surface and being severable from main body of sheet.

Flap Folding Means, N. Andre, San Francisco, Calif. U.S. 2,647,447, Aug. 4. In a machine for folding a blank of cardboard having perpendicularly arranged pairs of folding creases into a flat collapsed folding box with a plurality of bottom closure flaps forming one of the marginal portions of blank along one crease of said pairs comprising a horizontally extending carrier movable generally horizontally in one direction, a plurality of fingers extending downwardly across path and, when blank is moved therepast, fold said flaps rearwardly.

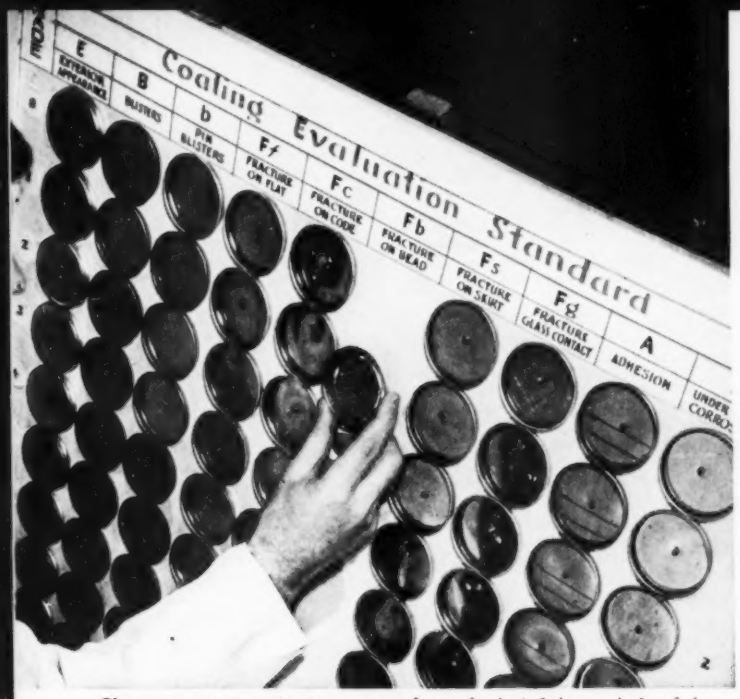
Container Blank to Form into Various Containers, D. T. Bowden, Marblehead, Mass. U.S. 2,647,621, Aug. 4. A container blank scored to form a back, top, bottom and two sides, each side embodying an inner side portion inwardly hinged along a scored line and having a slit that extends longitudinally between them along scored lines.

Box with Pivoting Article Display, J. E. Coletta (to Farrington Mfg. Co., a corporation of Massachusetts). U.S. 2,647,622, Aug. 4. In a display box having base and cover members connected at a hinge line on one side of said box, an article support pivotally mounted inside said box for tilting movement in a plane substantially parallel to hinge line about a fixed axis, cooperating elements on article support, at least one of said members for tilting article support in plane as box is opened by movement of members about hinge line.

Box with Rotating Article Support, D. Ortendahl (to Farrington Mfg. Co., Boston, Mass.). U.S. 2,647,623, Aug. 4. In a display box having base and cover members connected together for movement from a closed position with members in substantially parallel relation to an open position with members disposed in angularly related planes, article support mounted inside box for pivotal movement about an axis.

Hinged Box with Moving Article Support, W. W. Sedgwick (to Farrington Mfg. Co., Boston, Mass.). U.S. 2,647,624, Aug. 4. A box having a base, a cover and a hinge connecting the back of the base to the back of the cover, article support extending forwardly in box from hinge and being mounted for tilting movement relative to base to raise its forward end upwardly relative to base.

Insulated Container for Perishable Substances, J. B. Dube, Dallas, Tex. U.S. 2,647,653, Aug. 4. In a container for stor-



Closures must protect your products for indefinite periods of time. Because some products are chemically more active than others, each must be carefully analyzed before coating and liner is selected.

Research
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The camera calls on the Duraglas Center; here is what it sees—

One of the jobs assigned the Research Department at the Duraglas Center, the world's largest glass container laboratory, is to make good closures even better.

The contour comparator magnifies up to 60 times to help show how the container and closure fit.

Testing closure, liner, container. Tests are constantly being conducted to provide the best seal for a specific product.

Everyone has had the experience of having trouble removing a screw cap. This spring torque tester tells how to adjust capping machines for the right amount of twist pressure for good sealing and easy removal.

BEFORE This package lacks the finishing touch to compete successfully in today's self-service selling.

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U. S. patents digest

ing and shipping human blood, side walls and bottom defining an outer chamber, an outer sheathing of metal for said outer chamber and having a heat and cold insulated cover in sealing engagement with said walls.

Cap-Applying Apparatus, M. Burnell (to Crown Cork Specialty Corp., Decatur, Ill.). U.S. 2,647,672, Aug. 4. Means to move a container device along a predetermined path, a closure-device applying means above container-device moving means to position a slip-type closure device in closing relation upon a container device which is positioned in said path.

Stack Clamp, J. G. Galik (to American Seal-Kap Corp., Wilmington, Del.). U.S. 2,647,675, Aug. 4. A machine for dispensing caps from a stack of nested caps comprising a magazine adapted to contain a stack of said caps and to feed the stack forwardly as caps are removed from its foremost end.

Bottle-Corking Machine, B. G. Bausano, Detroit, Mich. U.S. 2,647,674, Aug. 4. A bottle-corking machine comprising a base and a vertical shaft mounted thereon, cushioning means on base adjacent shaft for supporting the bottom of a bottle.

Cellular Case, P. A. Schilling and J. B. Baird (to Waldorf Paper Products Co., St. Paul, Minn.). U.S. 2,647,679, Aug. 4. A cellular case including a partition structure, the partition structure including a series of first parallel partition members and a series of second parallel partition members intersecting the first partition members at substantially right angles, the first partition members each including a pair of wall panels foldably connected along their upper edges and having vertical slots therein communicating with their lower edges.

Dispenser for Pressure-Sensitive Tape, O. P. Erhardt (to Derby Sealers, Inc., Derby, Conn.). U.S. 2,647,745, Aug. 4. In a machine for dispensing pressure-sensitive tape, a frame, a feed member movably mounted on the frame, member having spaced feeding elements extending across the path of and engaging the tape, and stripping means.

Dispenser for Pressure-Sensitive Tape, A. P. Krueger (to Derby Sealers, Inc., Derby, Conn.). U.S. 2,647,746, Aug. 4. In a tape-dispensing machine, a frame, a feeding member carried by frame having spaced elements, each of which extends in a direction across the path of the tape and to which the tape adheres, means for moving member to effect feeding of the tape by the adherence of the tape to said elements.

Method of Making Bags, W. R. Richens, Upper Darby, Pa. U.S. 2,648,263, Aug. 11. A method of making bags comprising continuously advancing in the direction of its length a bag length of flattened gussetted tube having on its inner surface portions at least of thermoplastic material; during such advance, opening one end of said tube to form an open rectangular box having its bottom in the flattened body of the tube.

Taping Machine, P. J. Dewyer, Libertyville, Ill. U.S. 2,648,382, Aug. 11. Apparatus for withdrawing pressure-sensitive adhesive tape from a supply roll thereof, supporting predetermined lengths of the tape from opposite ends while each length of tape is severed and swingably supporting one end of a severed length of tape after the opposite end has been freed from its support.

Display Carton, C. J. Langford (to Waldorf Paper Products Co., St. Paul, Minn.). U.S. 2,648,427, Aug. 11. A carton including side walls and a bottom panel, said side walls being connected to the bottom panel along fold lines, a transparent covering for carton secured to side walls and extending across the top of carton, leaving a portion of bottom of carton uncovered.

Shipping Container, F. J. White and C. W. Scott (to Tote Engineering, Inc., Seattle, Wash.). U.S. 2,648,428, Aug. 11. A package of granular material and a container thereof, said container comprising a relatively rigid and substantially rectangular bottom member, leg members extending from each corner of bottom member and supporting said bottom member at an elevation to accommodate the tine of a lift truck below said bottom member and between said leg members.

Dispenser, W. C. Smith (to Chicago Carton Co., Chicago, Ill.). U.S. 2,648,429, Aug. 11. A dispensing container for ice-cream cones comprising a vertically elongated receptacle adapted to house a stack of upright nested ice-cream cones which have

upper end edges disposed in planes more or less inclined to the axis of the cones, the planes of successive cones being disposed in more or less irregular, non-parallel relationship.

Knock-Down Streamlined Container, G. A. Dean, Radburn, N. J. U.S. 2,648,454, Aug. 11. A knock-down container comprising at least three annular open-ended shell sections disposed end to end, a ring between each pair of shell sections containing opposed annular recesses for receiving the adjoining ends of said pair of shell sections.

Container with Raised Tearing-Strip Tongue, C. F. Peck (to American Can Co., New York, N. Y.). U.S. 2,648,459, Aug. 11. A container comprising a tubular body member provided with a bonded side seam, body member having score lines setting off a tearing strip starting at said side seam, a tongue member constituting an integral extension of said tearing strip and projecting from said side seam for a length sufficient to pass through and wind around the slot of a conventional opening key.

Easy-Packing Deep Container, S. P. Belsinger (to Belsinger, Inc., Atlanta, Ga.). U.S. 2,648,480, Aug. 11. A relatively tall upright shipping container formed of paperboard comprising front, rear and side walls joined at one corner to provide a rectangular packing space of a depth greater than the normal reach of a packer, said front, rear and side walls having rectangular flaps folded into overlapped relation and secured to form a rigid bottom end closure on which the container is adapted to rest during packing.

Heavy-Duty Fibre Container, S. P. Belsinger (to Belsinger, Inc., Atlanta, Ga.). U.S. 2,648,481, Aug. 11. A foldable fibre container formed from a substantially rectangular blank, blank being scored and slit to provide when assembled for use a bottom wall, side and real walls integral therewith, a cover member integral with said rear wall, cell end walls integral with said bottom wall, front and rear-cell walls formed integral with each end-cell wall.

Heavy-Duty Fibre Container, S. P. Belsinger (to Belsinger, Inc., Atlanta, Ga.). U.S. 2,648,482, Aug. 11. A foldable container formed from a substantially rectangular blank, blank being scored and slit to provide when assembled for use a bottom wall, side and rear walls integral therewith, a cover member integral with rear wall, end walls integral with bottom wall, front and rear cell walls formed integral with each end wall, an inner end-cell wall formed integral with each cell rear wall.

Heavy-Duty Fibre Container, S. P. Belsinger (Belsinger, Inc., Atlanta, Ga.). U.S. 2,648,483, Aug. 11. A foldable heavy-duty container comprising a bottom wall, front, rear and end walls formed integral therewith, front and rear walls having slots extending upwardly from the bottom wall and disposed midway between the ends of said walls.

Heavy-Duty Fibre Container, J. R. Belsinger (to Belsinger, Inc., Atlanta, Ga.). U.S. 2,648,484, Aug. 11. A heavy-duty fibre container comprising a bottom, side and end walls formed integral therewith, said side walls having extensions at the ends thereof forming half-end walls abutting each other, each half-end wall having a slot at and along the side wall to which it is attached, each end wall having a holding tab adapted to extend through one of the slots and having locking engagement with the inner face and half-end wall.

Cardboard Box Spring Hinge, L. D. Young (to Douglas Young, Inc. a corporation of Rhode Island). U.S. 2,648,485, Aug. 11. In a cardboard box a body section and a cover section, each section having perpendicularly disposed flat rear walls of relatively soft material with their edges abutting, flat metal anvil members along the outer surfaces of the rear walls, a paper cover over each anvil member, a flexible metal plate extending along the inner surface of the rear wall of each section.

Cardboard Box, L. D. Young (to Douglas Young, Inc., a corporation of Rhode Island). U.S. 2,648,486, Aug. 11. In a cardboard box a body section and a cover section, each section having vertically disposed rear walls with their edges abutting, a metal plate extending along the inner surface of the rear wall of each section, each plate having a plurality of holes along its length with a plurality of integral projections along the edge of each hole embedded in the rear wall over which the plate extends.

Bag for Packaging Tacky Polymeric Materials, F. R. Linda (to St. Regis Paper Co., New York, N. Y.). A multiwall paper bag for packaging tacky, high molecular, polymeric materials in such manner that materials may be easily removed from bag, bag comprising a multiplicity of paper tubes, disposed one within another.

Pre-shipment testing writes a record of performance

(This article continued from page 119)
ing associations, five container associations, four carrier organizations and three technical societies.

The program had its beginning in the days following the end of World War II as the demand for civilian production soared skyward. As manufacturers strained to meet this pent-up demand and as transportation authorities did everything possible to move the products to the customer, transportation damage and losses became a bigger and bigger headache. The reasons for this huge loss record were many. Such factors as obsolete manufacturing methods, unproved packaging methods, poor transportation equipment and inadequate handling, all must accept a portion of the blame for the unenviable record. Of greater importance than fixing the blame for damage was the action of the small group that has become the National Safe Transit Committee.

Under the sponsorship of the Porcelain Enamel Institute and the chairmanship of R. F. Bisbee of the Westinghouse Electric Corp., the group made a major study of the underlying causes of damage to major appliances and other porcelain-enamel products in transit. As a result of this study and detailed investigations, the committee concluded that the only basis for predicting the safe transportation of packaged products was the exposure of the packaged units to standard performance tests prior to shipment. Tests were then developed by the committee that would duplicate in the laboratory the conditions encountered in actual transit. All of the tests are made on the packaged product, since the package and product together are subject to the wear and tear of actual transit.

The test cycle

The complete cycle of tests recommended by the National Safe Transit Committee is as follows:

The packaged product is first subjected to one hour of vibration frequency of such a nature that the unit is forced to leave momentarily the testing table at some point during the test. This departure from the table is equivalent to an acceleration of one "g."

For packaged products weighing in the 100-to-1,000-lb. range the unit being tested is next subjected to longitudinal impact on an incline-impact testing device. In this test the packaged unit is loaded on a dolly and brought up the incline. The dolly is then released, allowing the load to hit the wooden bumper at the end of the incline. Each face and the bottom must be subjected to this test. The distance up the incline is determined by the distance required to produce an impact into the fifth zone as measured on the shock recorder which has been attached to the packaged unit.

If the packaged unit weighs less than 100 lbs., the vibration test is followed by a series of 10 vertical drops from a specified height. The test includes a drop on a specified corner of the container, then on each of the three container edges radiating from that corner and, finally, on each of the six container faces. Order of the drop is rigidly defined, as is the height, which varies in accordance with the weight of the packaged unit.

More than half of the 130 participating firms have established their own complete Safe Transit laboratories in their plants. These companies, for the most part, utilize the National Safe Transit tests as a regular aspect of their quality-control testing. Firms report that testing not only assures reduction of in-transit damage to the lowest possible minimum, but also serves as an immediate check on certain product-assembly methods and on compliance of the container and packaging with established requirements.

THE LABEL SHOWS that this package meets the combined recommendations of the product manufacturer, container manufacturer, testing laboratory and carrier. More than 130 companies are now participating in the NST program.

Carrier participation

One of the most significant aspects of the National Safe Transit program is the fact that it is a two-way street, with both carriers and manufacturers participating, together with the container manufacturer and the testing laboratory.

From the outset the program had the fullest cooperation of carriers. It required many months and thousands of miles of test shipments to determine average conditions encountered by the packaged product in transit. All the information gathered to correlate the test procedures was obtained in cooperation with Air Cargo, Inc., the American Trucking Assn., Inc., and the Assn. of American Railroads.

Carriers and Railway Express had extensive educational programs to acquaint their personnel with the National Safe Transit Program. These

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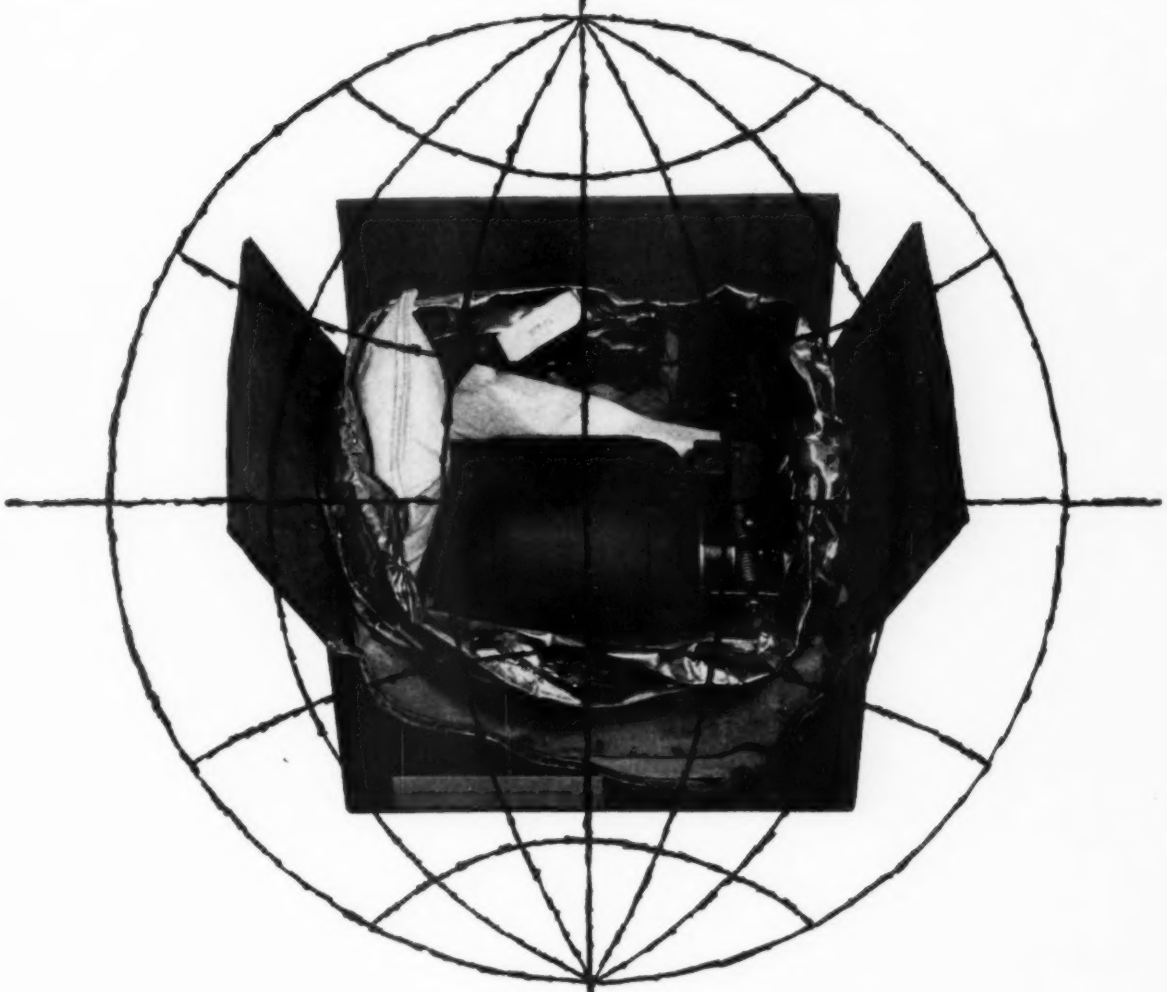

No matter where your product is shipped, Dobeckmun Barrier Materials will help it give top performance when it arrives, or after it has been stored for months. From sizzling heat to 65° below zero, Dobeckmun Barrier Materials prove their superiority in military packaging . . . remaining flexible, grease-proof, acid-free and non-corrosive at all times. Dobeckmun is the pioneer and leader in the Barrier Material field.

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MIL-B-131B, *Classes 1 & 2*	AN-B-20, *Type II*	JAN-P-117, *Type I, Grade A, Classes a, b, c*
MIL-B-131A, *Classes A & B*	JAN-P-131, *Type I, Classes A & B*	JAN-P-117, *Type II, Grade A, Classes a, b, c*
MIL-B-131A, *Class D*	JAN-P-131, *Type I, Class D*	JAN-B-121, *Type I, Grade A, Class 1 (regular and stretchable)*
MIL-B-7841 (Aer), *Classes 1 & 2*		JAN-B-121, *Type II, Grade A, Class 1 (regular and stretchable)*

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programs included the distribution of posters for erection at freight houses and handling points, calling attention to the label. The poster asked shipping employees to "Learn to recognize these requests and comply with our patrons' wishes—Make Safe Handling Your Job!"

A representative appraisal of the program by all types of carriers was recently expressed by John M. Miller, executive secretary of the National Freight Claim Council of American Trucking Assns., Inc. In citing how the program had removed the necessity for increasing their packaging requirements on manufactured products, Mr. Miller said: "In our industry the members of the National Freight Claim Council have all been informed of the importance of the Safe Transit Program—what it is and particularly what the Safe Transit label means. Our members have been encouraged to emphasize handling in their claim-prevention programs and to point out to their employees that the Safe Transit label means that the shipper has done his part to package his goods in the best possible way and that it is up to our employees to do their part by safe handling in order to assure that the expensive merchandise within the container reaches its destination in undamaged condition."

The National Safe Transit Program has served to emphasize that the safe transit of packaged products depends upon close cooperation between carriers and shippers. Equally important, it has provided the framework wherein that cooperation has taken definite form and where it can be developed in the years ahead. In the words of Frank Gibson of the Assn. of American Railroads: "While much has been done, there is much more to be done. I am sure we all agree there is still a big job ahead for shippers and carriers cooperating in the National Safe Transit Program before we can justifiably say, 'Here is a job well done.' "

Distributor support

The admittedly major problem of handling is not restricted to carrier personnel. The dealer and distributor as well as the manufacturer and carrier can mishandle products and inflict damage. Here again the program has earned the cooperation of distributors and retailers alike, who have been quick to realize the benefits of *(This article continued on page 208)*

Not when you use KIMPAK* 301 !

New KIMPAK 301 is the practical solution to appliance surface scratching and other marring damage. KIMPAK 301's ability to shield the fine finish from abrasive high spots on the inner walls of cartons and blocking and bracing members of crates makes it the ideal protective agent in an appliance package. And KIMPAK 301 costs no more than ordinary materials. It is specially designed to prevent the three major causes of scratching:

1. Abrasiveness of the inner spacers. Kimpak 301 provides a scratch-free, non-disintegrating, compressible barrier between inner spacers and the appliance finish. Its conformability ensures a snug package.

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3. Abrasive action of harsh packaging materials. KIMPAK 301 is soft and non-abrasive . . . free from wood splinters, dirt and other abrasive materials. No lumps, hard glue spots or stiff wrinkles.

Scratching is but *one* of many problems encountered in appliance packaging. These problems are solved with KIMPAK 301. For more details, contact the KIMPAK distributor in your area, or mail coupon below.

SPECIFY KIMPAK 301 TO SOLVE THESE INTERIOR PACKAGING PROBLEMS:

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Alcoa Aluminum

ALUMINUM COMPANY OF AMERICA

(This article continued from page 204)
the program and the tremendous potentials inherent. The program's influence upon this group is perhaps best expressed in the words of W. H. Murray, assistant supervisor of purchases and stores, Georgia Power Co., Atlanta, Ga.

"Not only," says Mr. Murray, "do we buy appliances in carload lots, but we then distribute them to over 100 of our own retail outlets. From these retail stores, we install the merchandise directly in the customers' homes. We have the opportunity to see its condition all along the line and we also have all of the headaches that arise when merchandise is received damaged.

"Thanks to the National Safe Transit Program, we are beginning to see the flood tide of damage checked. What this program can do in the years ahead to reduce the terrible losses resulting from damage in transit is dependent entirely on the cooperation it receives from all industry and carriers involved. As a result of the program we have put into effect an educational program to assure more careful handling by our warehouse personnel and all along the line, which includes close work with carriers trying to reduce damage."

Pre-shipment testing is the structure upon which the National Safe Transit Program rests, but its real strength is to be found in the cooperative efforts of every group vital to the safe transit of packaged products. It has been the combined effort of manufacturers, laboratories, container firms, carriers, distributors and retailers that has helped to write the program's record of achievements. It will be, according to John C. Oliver, secretary of the National Safe Transit Committee, the continuing efforts of these many groups working together that will eventually reduce in-transit damages to an absolute minimum and perhaps extend the principles of this program to all shipping packagers.

Correction—Container Equipment Corp., Oriental & Ogden Sts., Newark, N. J., is the supplier of the cartoning equipment used in the special packaging of margarine and butter by Gracious Foods Co., Evanston, Ill., as described in the article "Package that Molds the Product," p. 90, May issue. We regret that, through an oversight, this identification was omitted from the "Credits." The automatic cartoning equipment is a vital part of the operation.

The trend to fibre for the shipment of produce

(This article continued from page 141)
such packs are also vacuum cooled before shipment.

No study of lettuce packing costs such as the ones made on citrus fruits is yet available, although such a study is planned by the University of Arizona.

However, it does appear obvious that elimination of rehandling and complicated packing-shed operations represent savings. A supply agent for a group of Salinas lettuce shippers gives the following comparative figures on container costs: a wooden full crate, with the usual liners and pad and cover, assembled but without end labels, costs aproximately 80 cents and the wooden half-crate approximately 45 cents; a fibre half-crate size, complete and printed in two colors, costs approximately 27½ cents.

Reports on the condition of carton-packed lettuce on arrival at Eastern markets vary. Some opinion holds that quality suffers, while other opinion holds equally firmly that quality is improved. The former is based largely upon the view that the outer leaves of the lettuce heads tend to become dried out, with the latter based largely upon the belief that dampness from icing promotes rot. In preliminary investigations of the possibility of shipping lettuce in foil-lined cartons, it appeared that quality was improved over alternate methods. No impartial study of all the diverse factors involved (condition of lettuce when harvested, time from field to vacuum coolers, temperature reached in vacuum cooling, temperature and air circulation in railroad cars, handling at receiving point, etc.) is now available.

A major vexation to dry-packers, however, has been carton closures. The staplers in general use are not entirely satisfactory. While citrus boxes packed in sheds are closed with standard case sealers, field-packed lettuce cartons are closed with either hand staplers or powered staplers mounted on trucks. Faulty closures are fairly frequent and the usual method for correcting them is to re-staple cartons as they are taken off the dolly, before they go into the railroad car.

Lettuce shippers, like citrus shippers, say they are watching developments in wood-kraft containers and are particularly interested to learn if prices will be close to those for fibre containers. If the wood-kraft lamination is sufficiently water resistant, these boxes may prove to have most of the advantages of both wood and fibre containers: relatively light weight, acceptance of printing, strength for stacking, suitability for dry packing and possibly adaptability to conventional wet-packing methods as well.

Apples and plums

Fibre boxes have made rapid inroads into Northwest apple shipping. It has been estimated that at least 25% of the Northwest crop moves in fibre containers approximately the same size as the standard Northwest wooden apple box. Suppliers feel that it will be difficult to replace wood entirely with fibre, as apple growers pick into wooden boxes which stay in the orchard for as long as weeks at a time, then ship out the final portion of the crop in those boxes to avoid the necessity of holding them over until the next season. Fibre-carton suppliers believe that savings in container costs and, eventually, freight will compensate for the orchardists' purchase of field boxes to be held over from year to year, but apple growers tend to be obdurate on this point.

Only a small portion of California's apples which move in interstate commerce go out in fibre containers. A Watsonville grower has developed a combination wood and fibre box which he and some other growers are using, particularly for intrastate shipping. This container, which is being manufactured under license by four California companies, has solid wooden ends and a continuous piece of fibreboard forming sides, top and bottom. It is said to stack well. Its sides accept printing, but end labels must be pasted on. It has also been used to some extent for other fruits and vegetables.

A research program on improved containers for plums has been undertaken on an industry-wide basis by the California Grape & Tree Fruit League under a contract with the U. S. Department of Agriculture and a wide variety of boxes is being tested. As a basis for this undertaking, an analysis of the advantages and disadvantages of the standard four-basket wooden crate was made and a list drawn up of "Characteristics and Specifications for a Hypothetically Perfect Plum Shipping Container." A total of 120,000 lbs. of plums is being shipped in experimental containers this year and, under terms of the contract, a report on the results is to be submitted to the Department of Agriculture on Jan. 15, 1954.

PHOTO, CONTAINER CORP. OF AMERICA.

COMPOSITE CONTAINER for grapes, now under test, is standard lug size, takes wooden lid attached by standard lidding machine, has two thicknesses of fibreboard on sides and six on ends for bearing weight. This is a Rule 12 stripload in a refrigerated rail car.

Other fruits and vegetables

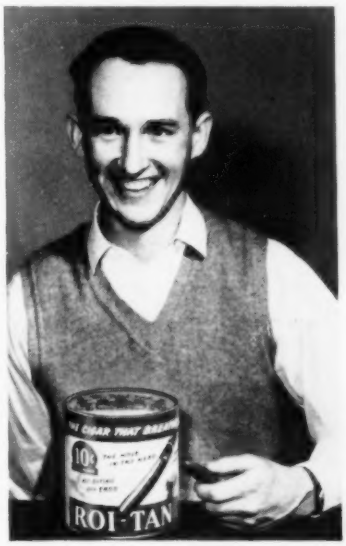
The principal successes of the fibreboard container have been with fruits and vegetables which are themselves able to bear considerable weight. They fit into the standard "regular slotted container" which has comparatively little weight-bearing strength. When stacked, the produce itself bears most of the weight.

This is not possible with plums or with tomatoes, berries, grapes, cher-

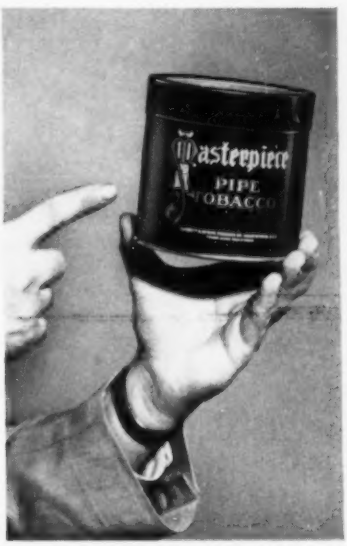
packaging news... by HARCORD

This square canister for R. G. Dunn illustrates the economy of paper canister packaging for cigars. Personal service and attention to detail played a large share in the production of this package for DWG Cigar Corp. by Harcord. Eye-catching and attractive, this container is familiar at tobacco counters throughout the Midwest.

Dignified packaging has been an important factor in achieving powerful sales results for Harmony Pipe Tobacco. This brown and yellow paper canister is economically priced and produced by Harcord for Liggett & Myers. Ready acceptance at the trade and consumer levels has been accomplished on a national scale.



Roi Tan Cigars – a name well known to cigar smokers, is now enjoying a new spurt in sales. Their paper canister is labelled in seven colors plus gold. According to The American Tobacco Co., a Harcord customer, this round package achieves top of counter display.



Reflecting the richness of the blend, Liggett & Myers' Masterpiece Pipe Tobacco – packaged in a Harcord canister labelled dark blue and printed in red. Reports from the field indicate instant product identification at the point of sale.

ries, avacados and other soft products. Research on containers for this type of produce has largely been concerned with developing a shallow, die-cut fibreboard box similar in shape and size to the standard wooden L. A. lug box, with ends strong enough to support weight of stacked boxes. California cherries, berries, grapes and other products have been packed in such containers for small commercial shipments, but in general the developments are still experimental. Successful shipments on this level have been made of grapes packed in a fibreboard lug with a ventilation pad in the bottom and ventilating holes at both ends. This is one of the standard-size fibre lugs developed by one company which is adaptable to numerous soft fruits and vegetables. It weighs slightly more than half as much as the L. A. lug. It is equipped with a wooden strip inside each end so that a standard wooden lid can be nailed onto it with standard lidding equipment.

Work is now under way on development of fibre containers for prepackaged produce and this line of investigation may lead to the next new field for fibreboard in this industry.

The railroads' view

Edward J. Dahill, chief engineer of the Freight Loading and Container Bureau of the Assn. of American Railroads and chairman of its National Container Committee, has recently summed up the national carriers' point of view in addresses at the University of California at Davis and at Purdue University, where growers and shippers gathered to confer on problems of transporting perishables:

"You probably have all noted the expanding use of corrugated fibreboard for the shipping of perishables," Mr. Dahill told these groups. "This material has certain advantages and also certain disadvantages as a container for shipping fresh fruits and vegetables. The manufacturers of these containers are carefully studying ways and means to make the use of corrugated fibreboard acceptable to the shippers, railroads and to the receivers.

"The principal item to which attention is being directed is the effect of moisture vapor and high relative humidities on the fibreboard and the adhesive holding the liners and cor-

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rugated sheet together, and also the adhesives for closing the containers. The question is also being explored as to how to ventilate these packages, if that is necessary, without reducing their strength against overhead weight and lengthwise pressures."

As it is not the practice to strip these particular containers to provide ventilating channels, Mr. Dahill points out, it then becomes necessary that the load be made tight crosswise and lengthwise. "These types of containers have a certain amount of flexibility and compressibility," he says, "and, therefore, in developing and devising methods of loading, these factors must be taken into consideration."

In the California field the corrugated fibreboard boxes are now being used in quantities for the shipping of lemons. A start has been made on the packing of oranges in these containers and there is a goodly volume of lettuce now packed in corrugated fibreboard containers which have been subjected to vacuum cooling and no top ice is used in the car, although ice is placed in the bunkers.

In Florida, Mr. Dahill says, containers made of corrugated fibreboard are being used for the shipping of bulk tomatoes in both 40-lb. and 60-lb. sizes. It appears that the 40-lb. size is in greater favor, inasmuch as the tomatoes are not being pressed due to their own weight in the smaller-size container.

Among the advantages which Mr. Dahill cites for fibreboard containers are the facts that they present smooth surfaces inside and out, permit preprinting on all six sides, use simple assembling machinery and can be automatically closed and sealed on machines.

That there is a lively and continuing interest as well as competition in the container field is testified to by the number of proposals which the National Container Committee has received to date. Since August, 1948, the committee has received approximately 800 proposals from various sources and a week does not pass that new ones come in, according to Mr. Dahill.

"The railroads have established the Freight Loading & Container Bureau and the National Container Committee," he says, "with the avowed purpose, in all ways practical and possible, to assist the shippers of perishables in their container and loading

problems, to make recommendations to the railroads in connection with the various proposals and also in connection with requests under the test rules. . .

"There has recently been established a Container Research & Development Laboratory, which comes under the jurisdiction of the Freight Loading & Container Bureau. As the name implies, this laboratory was not set up simply for the making of tests, but to carry on research and to develop the facts in connection with the use of the various containers and methods of loading. The laboratory is equipped with all devices which are currently being used in laboratories of such character and, in addition, we have a test track on which impacts using standard cars may be made. We soon will have a freight car with one open side which will permit us, through the use of slow-motion cameras, to observe the action of many different loads at the time of impact, so we may learn what goes on inside of a freight car in transit."

Mr. Dahill speculates thus upon future activities in container research: "Considering the extent to which fibreboard has been accepted in the fresh fruit and vegetable industry within the past few shipping seasons, it is probable that many commodities included in the general category will be, experimentally at least, packed in fibreboard as soon as that industry's development and promotional departments can make the necessary shipper contacts."

New FDA practices

Implementing the provisions of the new inspection amendment to the Federal Food, Drug and Cosmetic Act, according to Commissioner Charles W. Crawford, all FDA inspectors are now giving written notice of intention to inspect at the time when they present their credentials to the owner, operator or agent in charge of the plant. Such notices give the date, time of day, name of the inspector and address of the district office to which he is assigned, and the name and address of the plant. Inspectors are also leaving written reports on conditions or practices which indicate that any products in the establishment are unsanitary. Inspectors are now giving written receipts for all samples taken in connection with an inspection.

Packaging Institute program

The program for the 15 Annual Packaging Institute Forum, complete as available as this goes to press, is given in full below. The forum will be held this year at New York's Hotel Statler, Oct. 12, 13, and 14. One of the highlights will be the opening-day luncheon speech by Walter Williams, Under Secretary of Commerce.

Monday Morning, Oct. 12

9:00—**Registration**—Penn Top Foyer (18th Floor).

10:00—**Call to order**—Penn Top South (18th Floor). E. H. Balkema, Colgate-Palmolive-Peet Co., Program Chairman.

10:05—**Address of welcome.** Robert De S. Couch, President of Packaging Institute.

10:45—**Report of nominating committee.** Charles O. Kendall, Chairman.

11:00—**Keynote address.** Clarence Francis, Chairman of the Board, General Foods Corp.

12:30—**Luncheon**—Georgian Room (Ballroom Floor). Speaker. Walter Williams, Under-Secretary of Commerce.

Monday Afternoon, Oct. 12

(Concurrent Seminars)

2:00—PACKAGE PRINTING SEMINAR I—**Evaluating quality of printing on packaging materials**—Keystone Room (Ballroom Floor). Frank W. Cray, Vice President, International Printing Ink Div., Interchemical Corp., Chairman.

Status of the Packaging Institute fadeometer test. C. A. Reynolds, Jr., S. D. Warren Co.

A method for testing the ink rub resistance of printed packaging materials. L. R. Ayers, Robert Gair Co., Inc.

Final report on alkali test for printed packaging materials. A. H. Twardowicz, The Lord Baltimore Press.

Survey of instrumentation for color control in the packaging field. F. L. Wurzburg, Jr., International Printing Ink Div.

Proposed modification of method of test resistance of ink on printed packaging materials to fats and oils. L. K. Burnett, The Ohio Boxboard Co.

3:30—PACKAGE DESIGN SEMINAR—Keystone Room (Ballroom Floor).

Coordination for planned packaging. Robert G. Neubauer, President, Robert G. Neubauer, Inc., Chairman.

The client challenges the designer. Ray E. Tillotson, Art Director, Union Carbide & Carbon Corp.

Designer is the coordinator. Robert G. Neubauer, Package Designer.

Attaining the desired package. Edward Beiderbecke, Production Supervisor, Bloomer Bros.

2:00—PETROLEUM SEMINAR—Penn Top South (18th Floor).

Petroleum products packaging. A. D. Murphy, Esso Standard Oil Co., Chairman.

Review of petroleum packaging committee work since Oct. 1952. A. Douglas Murphy, Chairman, Petroleum Committee.

Quantity control filling of food-type cans in the petroleum industry. J. E. White, The Texas Co., and Bob Mellon, Gulf Oil Corp.

High-speed drum-filling equipment. Clarence J. Woodward, Sales Manager, The Rucker Co.

New developments in corrugated and fibreboard containers, and adhesion problems. B. B. Holmes, Vice President, Ball Bros. Co., Inc.

2:00—BULK PACKAGING—Sky Top (18th Floor). E. F. Dival, Corn Products Refining Co., Chairman.

Packaging of multiwall paper shipping sacks. Frank Pocta, Paper Shipping Sack Mfrs. Assn.

Packaging in textile bags. Howard Gill, Textile Bag Mfrs. Assn.

Packaging of liquid products in steel drum. M. L. Draper, E. I. du Pont de Nemours & Co., Inc.

Packaging dry and semi-solid products in fibre drums. Glenn Mather, Fibre Drum Assn.

5:00—**Meeting, board of directors of Packaging Institute**—Conference Room No. 7 (Mezzanine Floor). To elect officers.

Tuesday Morning, Oct. 13

(Concurrent Sessions)

9:30—PACKAGE PRINTING SEMINAR II (Printing Process)—Keystone Room (Ballroom Floor). J. M. Kernan, Ohio Boxboard Co., Chairman.

Printing processes and the properties of paper, board, liners, etc. J. C. Cavanagh, Asst. to Vice President, J. M. Huber Co.

Determining gloss on printed packaging materials. Dr. J. B. Bates, Sun Chemical Co.

Things to come in graphic arts. Paul Thoma, Technical Director, Springdale Laboratory, Time, Inc.

Printability of boxboard. J. J. Higgins, Asst. Research Director, Ohio Boxboard.

Meeting board requirements for folding cartons. J. J. Schwenkler, Asst. Technical Superintendent, Container Corp. of America.

9:30—PACKAGE PRINTING SEMINAR III (Flexographic Printing)—Penn Top North (18th Floor). J. M. Cozza, President, Cello-Masters, Inc., Chairman.

Seven keys to quality in flexographic printing. Franklin Moss, President, Mosstype Corp.

Advantages of printing folding cartons by flexography. Norman H. Rich, Vice President, Industrial Packaging Co.

(*PI program continued on page 220*)

(PI program continued from page 219)

"Exhausted" profits. Robert Zuckerman, Kidder Press Co.

Increasing yield of printed packaging materials through improved stability. Norman Cooper, Bensing Bros. & Deeney.

Flexographic printing—The answer to quality on a budget. John Cozza.

9:30—DRUG AND PHARMACEUTICAL PACKAGING SEMINAR I—Penn Top South (18th Floor). Dr. John C. Bird, Lederle Laboratories Div., American Cyanamid Co., Chairman.

Some unusual packages and their development. A. R. Schettel, Squibb Div., Matthieson Chemical Co.

Problems of glass container printing. L. H. Zahn, Ciba Pharmaceutical Products, Inc.

Types of glass—which to use. Panel Discussion.

H. Earl Nack, Sharp & Dohme, Discussion Leader
John A. Elder, Jr., Merck & Co.
Richard Hennessy, Lederle Laboratories
E. C. Zimmerman, Bristol Laboratories
J. A. Cherepow, Hoffman-LaRoche.
Joseph F. Greene, Kimble Glass Co.
Joseph Majeski, T. C. Wheeton Co.

9:30—PRODUCTION SEMINAR I—Sky Top (18th Floor). John A. Warren, American Home Products Co., Chairman.

Timing of automatic packaging equipment. George M. Woodruff, General Foods Corp.

Clinic for preventive maintenance for small as well as large plants. John Krause, Procter & Gamble, Chairman.

Specifications for satisfactory performance of shipping containers in line operations. E. S. Petze, Scott Paper Co.

Tuesday Afternoon, Oct. 13

(Concurrent Sessions)

2:00—PACKAGING AS A PROFESSION—Sky Top (18th Floor). James W. Goff, Michigan State College, Chairman.

C. K. Royce, Clint Royce Associates.
Carl A. Claus, Vice President, J. L. Ferguson Co.
Fred Nossal, Sales Manager, Ferdinand Gutmann & Co.
C. W. Stephens, General Manager, Dominion Paper Box Co.

2:00—DRUG AND PHARMACEUTICAL PACKAGING SEMINAR II (Continuation of morning session)—Penn Top South (18th Floor). Dr. John C. Bird, Lederle Laboratories Div., American Cyanamid Co., Chairman.

Hypodermic needles—standardization of nomenclature and testing methods. Panel Leader: H. Earl Nack, Sharp & Dohme.

Carl B. Burnside, Eli Lilly Co.
Dr. D. M. Ashkenaz, Wyeth, Inc.
R. J. Hennessy, Lederle Laboratories
A. R. Schettel, E. R. Squibb & Sons

Some unsolved packaging problems. R. J. Hennessy, Lederle Laboratories Div., American Cyanamid Co.

Optimum paper storage conditions. A Report. R. H. Butler, Merck & Co.

Heatless sterilization of packages. Dr. D. M. Ashkenaz, Wyeth, Inc.

2:00—MECHANICAL GOODS PACKAGING—Penn Top North (18th Floor). Carmon M. Elliott, Eastman Kodak Co., Chairman.

Packaging—a part of the manufacturing cycle. R. C. Reynolds, Packaging Engineer, International Business Machines Corp.

Engineered packages pay off. M. W. Barnell, Asst. Chief Inspector, National Cash Register Co.

Technical aspects of export packing. J. E. Williamson, International General Electric Co.

Gaining customer good will through packaging. C. M. Elliott, Packaging Engineer, Eastman Kodak Co.

5:00 to 7:30—**Cocktail party and buffet supper**—Keystone Room (Ballroom Floor).

Wednesday Morning, Oct. 14

(Concurrent Sessions)

9:30—PACKAGE PRINTING SEMINAR IV—**Handling and storage of printed packaging materials before their use**—Penn Top North (18th Floor). C. C. Sutton, General Foods Corp., Chairman.

Innovations in the packing room. Herbert H. Lemmerman, General Stores Manager, Air Reduction Co., Inc.

Handling and storage practice for labels, circulars and printed boxes. Paul Van Gieson, Lederle Laboratories Div., American Cyanamid Co.

How producers of printed foil would like to see it handled in the user's plants. Irving Totten, Research Div., Reynolds Metals Co.

How producers of printed plastic film would like to see it handled in the user's plants. I. F. Peake, Sales Development and Technical Service, E. I. du Pont de Nemours & Co., Inc.

Profitable uses of codes. Ira Gottscho, Adolf Gottscho, Inc.

9:30—**What's new in packaging research and development**—Parlor 2 (Ballroom Floor). Charles M. Woodcock, General Foods Corp., Chairman.

N. B. C. scoreline tester. Edward Monahan, National Biscuit Co.

Three speakers to be announced.

9:30—PRODUCTION SEMINAR II (Continued) (Innovations for the Packaging Machinery Line). John A. Warren, American Home Products Co., Chairman.

X-Ray inspecting of fill height of sealed containers for overfill or underfill at speeds up to 900 a minute. Speaker to be announced.

Checking for loose caps on high-speed

production lines. E. F. Dival, Corn Products Refining Co.

Automatic checking of correct labeling on lithographed can filling lines. M. J. Reid, Eastman Kodak Co.

A graphic chart method for computing quality control records of powder fills. Speaker to be announced.

9:30—**New techniques for the packaging engineer.** Carmon M. Elliott, Packaging Engineer, Camera Works, Eastman Kodak Co., Chairman.

Maintaining proper packaging specifications. Clemens Koehler, Consulting Engineer, Koehler, Odell & Worden.

Quality control enters the packaging department. A. F. Deuble, Plant Chemist, Johnson & Johnson.

Packaging faces the incentive system. S. T. Stearns, Industrial Engineering and Methods Dept., Merck & Co., Inc.

1:00—**Luncheon—"Pack for less"**—Sky Top (18th Floor). J. Frank Stephenson, General Manager, Kraft Containers, Ltd.

Wednesday Afternoon, Oct. 14

3:00—**Adhesion Committee**—Conference Room 8

Glass Container Committee

Food Committee

Education Committee

Section IV Committee. (Printed Packaging Materials Division)

(a) Uses Of Codes.
(b) Grain Direction Of Labels.
(c) Storage Conditions.
(d) First In—First Out Control.

Other technical committees to be announced.

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EQUIPMENT • SUPPLIES • SERVICES

WRAPPINGS AND BAGS. Illustrated booklet gives details on tear-resistant "Printcraft" wrappings and signature-printed or custom-designed millinery and notion bags available in subdued reproductions of herringbone, cane weave, leather-texture, or broadway stripe. Thilmany Pulp & Paper Co. **(J-351)**

SHEET COATING AND GLUING. Full line of sheet coating and gluing machines for use with rigid cardboards, woods, fibers, flexible papers, leathers or fabric is described in a bulletin which contains plant layout diagrams and information on high speed coating operations. Potdevin Machine Co. **(J-352)**

FOLDING CARTON STYLES. Booklet illustrates 34 different styles of folding carton construction plus several additional patented variations. Check list of points to be considered when developing and ordering cartons. Robert Gair Co. **(J-353)**

"VELVA-GLO" FLUORESCENT IDEA KIT. File folder contains samples, color cards and suggestions connected with the use of fluorescent papers, cardboards, silk screen colors and brushing colors for promotional and packaging applications. Radiant Color Co. **(J-354)**

STEEL SHIPPING CONTAINERS. Illustrated brochure follows the step-by-step processing of steel sheets, from shot blasting for removing rust, rolling for smooth surfaces, rinsing, spraying, and coating to curing of the sheets, for eventual fabrication into steel shipping drums and containers. Rheem Mfg. Co. **(J-355)**

"PNEUMATRON" AIR-OPERATED NET WEIGHERS. Data and construction details on a new type of net weigher for free flowing products that operates at high speeds and with great accuracy. Pneumatic Scale Corp. **(J-356)**

ENGRAVED INKING ROLLERS. Bulletin illustrates various "Evenflo" precision engraved rolls for applying ink, plastics, adhesives, and other fluids in aniline presses. Paper Machinery & Research Corp. **(J-357)**

VACUUM FILLER. Construction and specification data on the semi-automatic Model B-2 vacuum filler for continuous liquid filling of round or rectangular containers. U. S. Bottlers Machinery Co. **(J-358)**

"PACK TO ATTRACT." Booklet illustrates many of the methods by which corrugated shipping containers can be effectively used to dramatize and increase the sales of products. The Hinde & Dauch Paper Co. **(J-359)**

AUTOMATIC SCREW CAPPERS. Folder illustrates and describes the features of several automatic and semi-automatic machines for sorting, feeding, and applying many sizes of screw caps to bottles, jars, and cans. Resina Automatic Machinery Co., Inc. **(J-360)**

AUTOMATIC BAG MACHINE. Pamphlet gives information on the Model 14-E, an automatic bag-making machine for producing heat-sealed polyethylene bags from tubing up to fourteen inches wide. Samples and prices included. Hilker Products. **(J-361)**

REGISTRATION CONTROL. Bulletin contains complete specifications and schematic diagrams of a high speed, color sensitive machine for accurate control of register in printing, packaging, wrapping, or cutting. Ripley Company, Inc. **(J-362)**

COOLING AND PASTEURIZING UNIT FOR JARS. Operation of triple-purpose unit that pasteurizes, holds, and cools products packaged in jars, bottles, or cans is fully described and pictured in brochure that includes flow chart and specification data. Island Equipment Corp. **(J-363)**

BACON WRAP. Diagrams and specification data on the Model F bacon wrapping machine for simultaneously wrapping and sealing bacon in cellophane that eliminates bottom wrinkling and minimizes air spaces in the pack. Package Machinery Co. **(J-364)**

ALUMINUM FOIL. Booklet reviews production methods and quality controls employed by this foil manufacturer. Includes suggested applications for foil in the packaging field. Republic Foil & Metal Mills, Inc. **(J-365)**

PRESSURE SENSITIVE TAPES. Current shipping regulations for sealing and reinforcing packages with "Scotch" brand pressure sensitive tapes are presented in folder that also describes applications for these tapes on many types of packages. Includes postal regulations governing tape use in parcel post. Minnesota Mining & Mfg. Co. **(J-366)**

GUM ARABIC. Illustrated technical bulletin gives physical and chemical properties of this versatile adhesive. Includes data on applications and recommended handling techniques. Morningstar, Nicol, Inc. **(J-367)**

PREPACKAGING IN POLYETHYLENE BAGS. Booklet explains the importance of ventilation in produce packaging, recommends bag sizes for various fruits and vegetables, and gives procedure for proper refrigeration. Durethene Corp. **(J-368)**

ROLL SLITTING MACHINE. Technical data sheet features the Model WR, a machine for the easy separation and production of paperboard rolls with small core diameters suitable for gummed tape rolls. Clark-Aiken Co. **(J-369)**

AUTOMATIC CARTON TAPING MACHINE. Data on an automatic machine which securely seals up to 50 cartons per minute without the use of glue so the cartons may be knocked down for re-use. Wagner Iron Works. **(J-370)**

TAPING TECHNI.QUES. Manual tells how to apply gummed sealing tape properly, what makes gummed sealing tape stick, mailing regulations, how to store sealing tape, and answers some unusual questions on this tape. The Gummed Industries Association, Inc. **(J-371)**

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GLASS PACKAGING. Illustrated booklet catalogs full range of company's glass containers for the food, beverage, drug, and dairy industries. Includes data on metal and plastic closures for bottles and jars. Owens-Illinois Glass Co. (J-372)

FOLDING MACHINE. Brochure illustrates and describes the operation of a machine which folds sheets into either parallel or right angle sections, featuring a continuous feeder that handles all varieties of stock suitable for folding. Dexter Folding Co. (J-373)

VIALS FOR DRUG PACKAGING. Bulletin explains the advantages of using "Clearsite" clear or green plastic capsule vials for packaging pharmaceutical products. Celluplastic Corp. (J-374)

AUTOMATIC PACKAGING MACHINE. Details on the "Simplex-O-Matic," a unit which combines bag making, weighing or measuring, filling, sealing, and checking in one continuous automatic operation. Option of net weight or volumetric filling. Simplex Packaging Machinery Co. (J-375)

FIBER REINFORCED WATERPROOF PROTECTIVE PAPER. Data on Thilco "Wrap-Dri" Type MR, a fiber reinforced kraft-asphalt-kraft combination which is tough, strong, puncture resistant, pliable, and MVT protective, and may be used for covers and shrouds, crate and case liners, unitized loading, and other protective packaging functions. Thilmany Pulp & Paper Co. (J-376)

GROSS BAGGER. Information sheet on a semi-automatic, hand-operated bag-filling machine for bagging bulk materials in open mouth textile and multi-wall bags. Contains layout, operation and specification data. Richardson Scale Co. (J-377)

GLUERS AND CEMENTERS. Bulletin explains the operational features and uses of Schaefer machines for applying various types of gums, glues, and cements to paper, leather, cardboard, cloth, and other sheet materials. Schaefer Machine Co. (J-378)

ACETATE SHEETING AND FILM. Brochure gives sizes, colors, physical and thermal properties, formulations, applications, and forms in which Celanese acetate sheeting and film are available. Celanese Corp. of America. (J-379)

VENTILATED FILM. Details on the advantages of using "Respiro-Pak" ventilated film for prepacking of produce. Cello-Masters, Inc. (J-380)

"PLASTICS PACKAGER." Issue No. 3 of this house organ shows how molded and fabricated plastics are used to package a variety of consumer and industrial products. Monsanto Chemical Co. (J-381)

ICE CREAM CONTAINERS. Information on half-gallon ice cream containers which feature embossed metal tops and bottoms, and colorful cellophane laminated exteriors that resist frosting. Cellu-Fibre Can Corp. (J-382)

"CEL-O-SEAL" BANDS. Booklet describes colorful tamper-proof cellulose closures for bottles that allow space for quick price marking on top. E. I. du Pont de Nemours & Co., Inc. (J-383)

SACKING AND GENERAL PURPOSE SCALES. Specification sheet on highly accurate 150-lb. capacity scales with under-and-over weight indication. The Exact Weight Scale Co. (J-384)

INDUSTRIAL PACKAGING. A full range of laminated and single ply flexible packaging materials and containers for protective packaging of industrial parts and products are described in a folder issued by Kennedy Car Liner & Bag Co. (J-385)

GLASSINE. Folder contains samples of new line of opaque glassine papers designed specifically for food labels, candy wrappers, and bags where both grease resistance and whiteness are required. Rhinelander Paper Co. (J-386)

POLYETHYLENE PACKAGING. Folder lists the advantages of polyethylene bags, tubing, and drum and carton liners extruded and fabricated by Poly Plastic Products, Inc. (J-387)

"CORRUGATIONS." Stone Container house organ contains feature articles on packaging such diversified products as ice cream cones and fine furniture. Stone Container Corp. (J-388)

LAMINATING ADHESIVES. Folder contains charts showing the characteristics of a wide range of rubber-base adhesives for laminating films, papers, foils, and fabrics and for flocking. Rubber & Asbestos Corp. (J-389)

GLASSWARE FOR DRUGS. Illustrated catalog gives complete purchasing data on company's "Moderne" line of vials, applicator bottles, powder and ointment jars and closures designed particularly for pharmaceutical products. Foster-Forbes Glass Co. (J-390)

FLOOR AND COUNTER DISPLAYS. Brochure illustrates the metal units many leading manufacturers use to display, dispense, and demonstrate their products in retail outlets. Advertising Metal Display Co. (J-391)

FILLING MACHINES FOR FREE FLOWING PRODUCTS. Data on rotary "Whiz-Packer" filling machinery for handling containers with restricted openings, for filling products requiring settling in a tight pack, and for eliminating product dusting. Frazier & Son. (J-392)

TESTING POLYETHYLENE BOTTLES. An explanation of several tests prospective users should make before deciding on the suitability of polyethylene bottles for packaging their product. Elmer E. Mills Corp. (J-393)

ADJUSTABLE CORRUGATED CARTON MACHINE. Details about the economies and advantages of the "Rite-Size" box machine for manufacturing a wide range of different size corrugated cartons with minimum set-up time and expense. Colt's Mfg. Co. (J-394)

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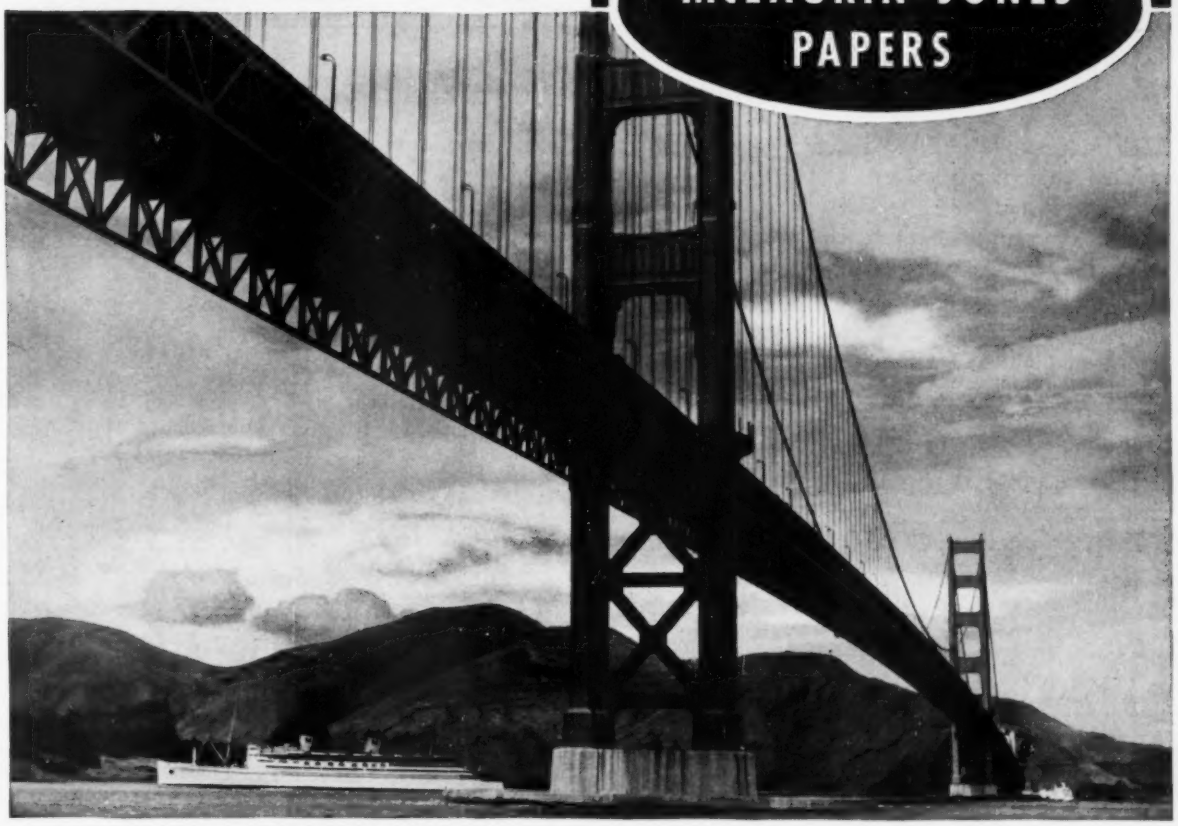

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DEALERS, DISTRIBUTORS

(Appliances, Office Furniture, etc.)—Accidental nicks, mars and scratches vanish before a spray of factory standardized enamel or lacquer. This way, merchandise can look its best when delivered to customers.

MAINTENANCE, REPAIR OPERATIONS

(Business Machines, Automatic Vendors, etc.)—Equipment subject to surface wear and tear can be renovated on-the-spot. Tool marks which follow repairs can be covered at a flick of the finger.

HOME CRAFTSMEN

Although pressurized touch-up products are designed for use by experienced painters, the general public can achieve a rewarding amount of success by following printed directions.

What other uses can you think of? Where do you fit in?

Economical cushioning

(This article continued from page 153)

end of the shipping room, then moved to the packers on an overhead roller-type conveyor which keeps them up out of the way until needed. Before each container is placed on the conveyor, two long excelsior pads are placed in it crosswise, forming a double layer of protective padding across the bottom of the box and a single layer extending up each side wall of the container.

After filling the boxes with the individually wrapped items, which require no further interior cushioning, the packer folds the ends of the blankets across the top and seals the flaps with a specially printed green-and-white gummed tape carrying the Haeger name and the notation, "Handle with care—Fragile—don't drop." The use of the gummed tape for sealing the containers permits them to be opened without damage and re-used by Haeger customers as they are required.

The distinctive green corrugated shipping containers, which were first adopted for Haeger's line of lamps, are printed in white, highlighting the company name within a border of concentric rectangles. Supplanting the former plain corrugated shipper, the colored package stands out in shipment and in the warehouse, having a quality appearance consistent with the reputation of the Royal Haeger line of products.

Haeger officials do not feel that their revised packaging program has yet been carried to its full potential. They hope, for example, to eliminate unnecessary handling of the pottery items by doing the individual wrapping as early as possible after the actual finishing of the pieces. Adoption of the pads and blankets has brought about an important forward step in packaging and forms a sound basis for further packaging improvement.

CREDITS: *"Protex" excelsior pads and blankets, American Excelsior Corp., 1000 N. Halsted St., Chicago 22, Ill. Corrugated shipping boxes, Inland Container Corp., 700 W. Morris St., Indianapolis, Ind.; Union Bag & Paper Corp., 233 Broadway, New York 7; Elgin Corrugated Box Co., Elgin, Ill., and American Box Board Co., Grand Raipds, Mich. Printed gummed tape, Blue Ribbon Tape Co., Hudson, N. Y., and Nashua Gummed & Coated Paper Co., 44 Franklin St., Nashua, N. H.*

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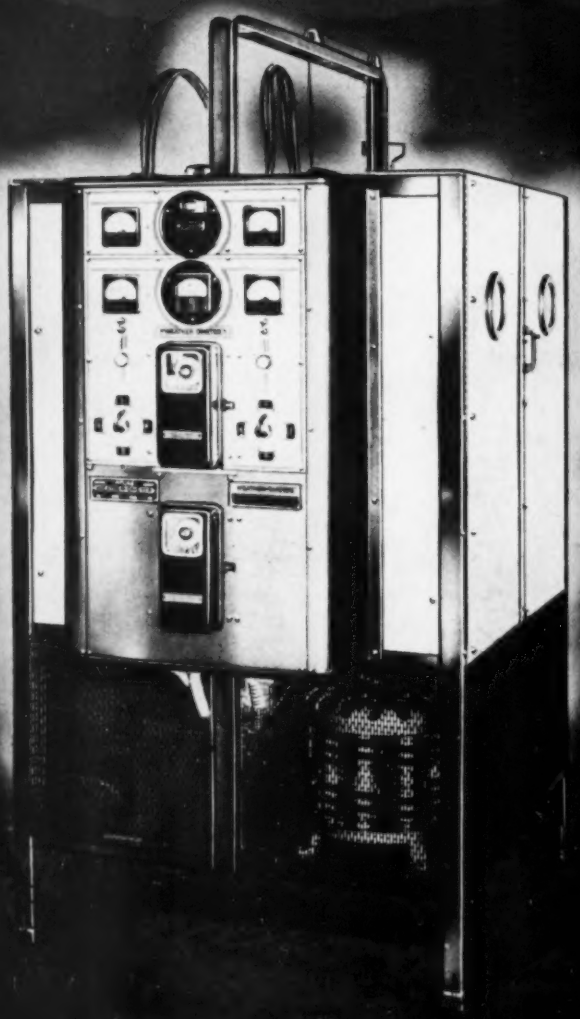

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RELY ON IPI FOR LEADERSHIP IN INK RESEARCH

Film liner status

(This article continued from page 147)

ical pattern of packaging research, are experimenting with new materials to suit specific product fields.

Frozen-food packers are now eying the new saran lining laminated to 55-gal. steel drums. Advantages claimed for the liner-barrel combination are (1) a clean surface, since the plastic sheets do not support bacterial growth, (2) foods freeze faster, thaw faster, (3) steel barrel heads can be removed or replaced in seconds without contamination or splinters and (4) up to 15% more frozen foods can be stored in the same cubic foot area because of the smooth sides.

Originally intended for the frozen-berry industry, the drum is now under test in shipping certain chemicals and other products. Frozen-berry producers who have adopted the saran-lined drum include such companies as Gresham Berry Growers, Gresham, Ore.; National Fruit Canning, Seattle, Wash., and the North Marion Fruit Co., Woodburn, Ore.

Preliminary use under the rigorous conditions of cold storage and shipping shows that the saran film remains in excellent condition. When shipped to the Middle West or East, the drums are used by the original packer as a one-way container, but in some cases are returned to the West Coast for additional trips. Where local shipment is made, the drums are used as returnable containers.

Another film, a tough vinyl resin modified with synthetic rubber, akin to the film used in the squeeze-color bag for oleomargarine, has been adapted to drum liners to carry fats, oils, shortening and essential oils, as well as frozen products. Two types of the film are in current use in the food and pharmaceutical fields. One is designed for grease resistance; the other for frozen foods. Both are non-toxic, resistant to permeation, abrasion resistant, flexible at high and low temperatures, non-combustible and resistant to the effects of acids, alkalies and solvents.

Typical products now being bulk packaged in vinyl-film liners include shampoos, face creams, rug-cleaning solutions, sulfanilamide, cod-liver oil, cough drops and, since the films have been accepted as non-toxic by the Bureau of Animal Industries, a number of food products such as whey, pickle relish, condensed milk, lard.

vegetable shortening and peeled potatoes.

Using fibreboard boxes or drums lined with the vinyl film, instead of tin or metal containers, is said to have lowered the cost of packaging lard by more than 50%. Storage space is saved, as fibre containers of folding construction can be used. For removal, the liners can be cut open, completely exposing the entire contents, leaving no corners or crevices for the lard to cling to as in the metal container.

The outlook

As years are measured in packaging, drum liners and their uses are still in the beginning stages, though much valuable information has been collated thus far. In the coming months packagers may be expected to use a greater amount of contoured liners, especially when increased production should lead to lower costs. Over and above the excellent protective advantages conclusively demonstrated by all styles of liners, they will undoubtedly be used more frequently in conjunction with the more inexpensive outer containers. Meanwhile, packagers are concentrating on more efficient ways to handle liners in their plants and hopefully look towards suppliers who promise new films, designed to handle the most difficult bulk-packaged product. The low cost, easy handling and protective virtues of liners are more than likely in the near future to make them attractive for packaging the giant sizes of certain consumer products.

Acknowledgement

We are grateful to the following suppliers who contributed information to this story: Chase Bag Co., 309 W. Jackson Blvd., Chicago 6; Continental Can Co., Inc., 100 E. 42 St., New York 17; Diaphane Corp., 1934 Arch St., Philadelphia 3, Pa.; E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del.; Durethene Corp., 1859 S. 55 Ave., Chicago 50; Flexible Package Co., 2627 S. Stewart Ave., Chicago 16; B. F. Goodrich Chemical Co., 324 Rose Bldg., Cleveland 15; Hedwin Corp., 1525 W. 41 St., Baltimore 11, Md.; R. L. Kuss Co., Inc., Findlay, Ohio; Mehl Mfg. Co., Div. Sydney-Thomas Corp., 2057 Reading Rd., Cincinnati 2; Plastic Packaging Co., 730 N. Franklin St., Chicago 10; Rheem Mfg. Co., 570 Lexington Ave., New York 22; The Visking Corp., 6733 W. 65 St., Chicago 38.

Meadow Gold Butter

(This article continued from page 124)

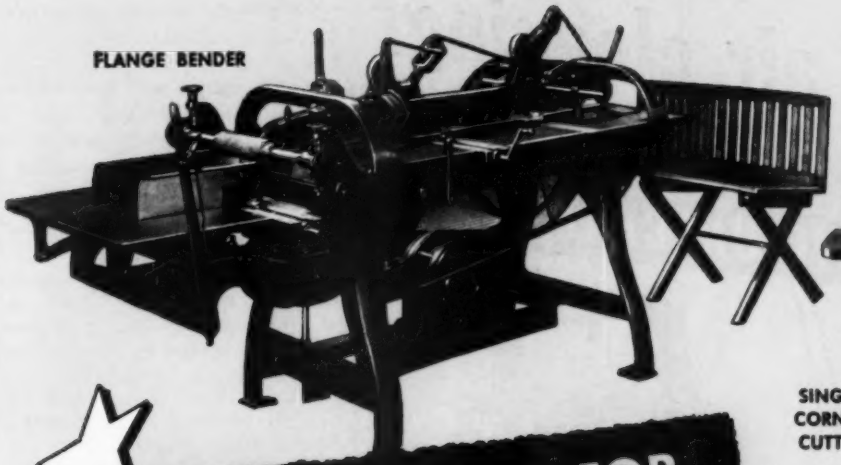
ing advancement since the flat, refrigerator carton. The exclusive, new aluminum foil wrapper that keeps butter fresh *twice as long as ever before!*"

The impact of the new Meadow Gold foil wrapper soon made itself felt not only in the United States, where other leading butter producers switched over to a similar type of wrapper as soon as conditions would permit, but also in such distant countries as Australia and Denmark, both of which depend heavily upon butter exports for their foreign trade. An article appearing in the April 17, 1948, issue of the Danish newspaper *Politiken* devoted considerable space to the success of the foil wrapper and pointed out that arrangements were being set up at a plant in Copenhagen for the output of a foil-parchment wrap to be made available to plants in Denmark, Norway, Sweden, Finland, Holland and Belgium. This article further explained that the adoption of foil wraps was expected to do away with the net-weight loss of 3% normally experienced with butter packages shortly after leaving the dairies—a shrinkage estimated to cost Danish producers 7½ million kroner annually.

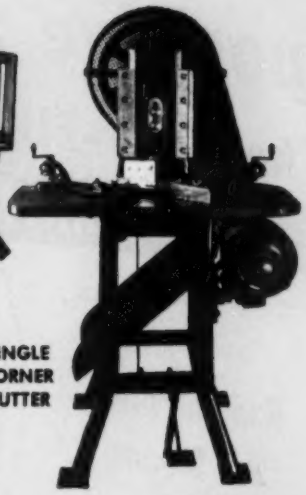
With foil-wrapped butter now enjoying universal acceptance, Meadow Gold is not content to rest on its laurels. At the Illinois State Fair in August, 1953, the product received further recognition in the form of a first-place award based on effective packaging and other criteria.

The name of the parent organization was changed in June, 1946, from Beatrice Creameries to Beatrice Foods Co., in recognition of the fact that the company had long since ceased to be only a butter-manufacturing organization. In the fiscal year ended Feb. 29, 1953, butter sales accounted for 20% of the company's dollar sales volume, with fluid milk and cream sales representing 33% of the total; ice cream, 18%, and poultry and eggs, 5%. The remaining sales for the period came from the company's LaChoy and and other specialty foods.

The scope of Beatrice Foods Co.'s butter operations may be judged by the fact that the company's total sales for all products and services in 1952 reached $235,204,000. Net profit for the fiscal year which ended Feb. 29, 1953, was $3,993,355.03. During the

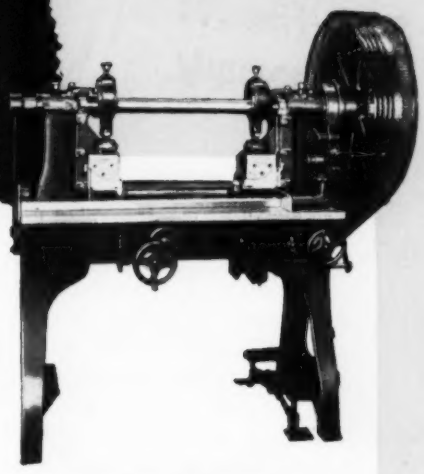


FLANGE BENDER



SINGLE CORNER CUTTER

KEY MACHINES FOR SAVING COSTS IN SET-UP BOX PRODUCTION LINES



DOUBLE CORNER CUTTER

This trio of Knowlton set-up box production machines plays an important role in overall costs where tight margins of profit are involved.

The Automatic Flange Bender, for example, will not only increase output, but produce a higher quality box. It replaces hand bending and will do as much work in one hour as hand operation can turn out in several hours. It soon pays for itself in labor saved.

Knowlton Single and Double Corner Cutters are built to stand continual usage and keep product waste at a minimum. Work can be turned out fast, accurately and uniformly whether the cutting need is light or heavy, deep or shallow.

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same period, the total advertising expenditures of the organization, covering butter and other products in the line, reached approximately $2,387,000. The merger with Creameries of America, Inc., which in 1952 had sales of $49,039,000, will further strengthen the sales leadership of Meadow Gold butter—in the foil wrapper that revolutionized the industry's packaging standards.

CREDITS: *Parchment-backed aluminum foil wraps, Reynolds Co., 2500 S. Third St., Louisville 1, Ky., incorporating parchment supplied by Paterson Parchment Paper Co., Bristol, Pa. Folding paraffined cartons, Chicago Carton Co., 4200 S. Crawford Ave., Chicago 32. Package design, Harper Richards, 160 E. Superior St., Chicago. Automatic wrapping and cartoning equipment (Morpac), Lynch Corp., Packaging Machine Div., 3600 Summit St., Toledo 1, Ohio.*

Glue-lap gains

(This article continued from page 129)

sions—are more or less competitive in cost with other types of containers. And while all state that their sales are increasing steadily, some say that their customers were at first afraid to trust the glued joint because the bonding agent was not visible, as it is in stitched and taped containers. This factor reportedly is still causing some sales resistance. Other doubts which had to be overcome were how the joint would stand up under moisture, refrigeration, long-term storage under extreme conditions, rough handling, aging, and weight and pressure. But these seem now to have been overcome, largely by the slow, steady process of trial and experience until now the glued-lap container appears to have proved itself to be a good all-around container and perhaps the best one for certain purposes.

CREDITS: *Resin emulsion adhesive (Darex), Dewey & Almy Chemical Co., 62 Whittemore Ave., Cambridge 40, Mass. Containers for Birds Eye, Schmidt Beer and Atlantic Refining Co., Kieckhefer Container Co., P.O. Box 710, Camden, N.J. Old Dutch Coffee containers, Industrial Container Corp., 50 St., & Second Ave., Brooklyn 32. Bulk-butter container, Container Corp. of America, 38 S. Dearborn St., Chicago 3. Tung-Sol auto-lamp container, Union Bag & Paper Corp., 233 Broadway, New York 7. General Electric container, Housatonic Corrugated Box Co., Stratford, Conn. Testing by Container Laboratories, Inc., 45 E. 22 St., New York.*

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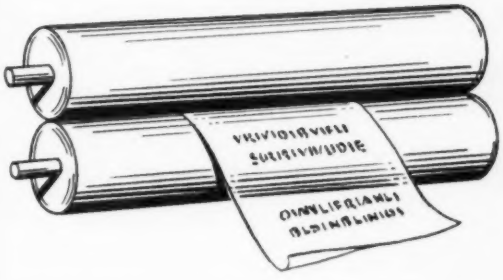

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Rigid barriers for the military

(This article continued from page 167)
and the host of other difficulties that can plague a wooden container. It isn't that freedom from these difficulties cannot be obtained using a wood box; it's more that it is so easy to obtain such freedom with a rigid barrier that there is no hesitancy in selecting the latter when the answers to questions in the catechism begin to favor its choice.

At this point, the types of containers have been summarized and indications of where their use in military packaging is justified have been given in general terms. It is appropriate, therefore, to turn to a program where rigid barriers have been used for some time to see whether or not anticipated performance in all areas has been realized. In the case of aircraft engine containers, the answer is emphatically that they have and more so.

First, do they save money as containers? The answer is given by Table I, which compares packaging costs for a fictitious engine. The prices are fictitious also, although not grossly out of line with actual prices. They were, however, deliberately distorted to show that even if the metal container cost twice as much as the wood box (which is a rare occurrence in the larger engines), direct monetary savings will accrue in about two years' time. This accrual occurs even if one metal container be bought for each engine produced. Actually, this is not true either, since after the pipeline is filled, containers are recycled so that the final quantity procured is on the order of six containers for every 10 engines.

Second, have other benefits been obtained? In 1947 a survey was made of the conditions prevailing with the Navy's inventory of aircraft engines. For the most part these engines were stored in wooden boxes of uncertain vintage and dubious original quality and were preserved with a flexible barrier fabricated from rubber hydrochloride. Because of wartime material shortages, many of these envelopes were made from stock that had been reclaimed two or three times, so that their relatively high water-vapor-transmission rate was further compromised by suspicious quality. At the same time the Navy, like all services, was in the throes of its post-war adjustment and skilled personnel were not available in the quantities necessary to accomplish even the most rudimentary maintenance. As a result of this survey, however, the decision was reached to shift to the use of metal containers for all aircraft engines. While definitely not a true comparison of what the differences would be with a properly manned Navy using sound boxes and modern, greatly improved flexible barriers, Table II does indicate that sizable reduction in corrosion losses has been achieved. In fact, the single case reported in 1953 was adjudged to have occurred prior to installation in the container. In any case, the change-over has resulted in complete confidence on the part of the operating forces that any replacement engine received will be in full working condition.

Third, do they protect the engine from shock and vibration? With a few exceptions, resulting primarily from inadequate specification coverage of a fairly abstruse problem, there has been excellent vibration performance. In the case of shock, actual performance has far exceeded normal expectations. Cases are thoroughly authenticated of 8- and 10-ft. accidental drops with only the most minor damage to the engine. One naval officer reports that he has seen one fall from a two-story height with only minor damage to the engine. These containers have survived train wrecks, floods, fire and the inability of certain highway carriers to estimate properly bridge clearances confronting them suddenly when driving at a goodly rate.

Finally, their ability to float—a property somewhat maligned during the early stages of the change-over to metal—has produced at least two noteworthy stories. The first tale is that of an aircraft carrier which lost four engines overboard in a storm and picked them up in mid-ocean 8 hrs. later.

The other tale was the receipt of a letter indicating that a Navy engine had floated ashore in good condition on the Island of Nevis, a 50-square-mile dot of land in the Leeward Islands guarding the entrance to the Caribbean. This episode is not yet closed, since the engine has not com-

pleted its return to Navy custody (St. Kitts is not a regular port of call for Navy vessels and possesses no airport capable of receiving large aircraft). It is known that the engine was overhauled in 1945, so it is possible to presume that the container is one of the earliest engine containers procured. The replacement cost of the engine is close to $35,000, while the replacement cost of the container is less than $500. The lesson here is quite obvious.

It is apparent, therefore, that improvements in military readiness have been obtained, that money has been saved in very large quantities and that it will continue to be saved by the aircraft-engine container program. It is for this reason that a steady expansion of the rigid-barrier program can be expected, to the ultimate benefit of all citizens in their dual roles of beneficiaries of national security and as taxpayers.

References

1. Pilcher, R. W., et al., ed., "The Canned Food Reference Manual," American Can Co., New York, 1947.
2. Minutes of Joint Services-Industry Conference on VCI, Naval Air Experimental Station, 19 Dec., 1952.
3. Modern Packaging Encyclopedia, 1952 ed., pp. 266-273, Packaging Catalog Corp., New York.
4. Specification MIL-D-3464.
5. Bixby, J. O., and Kurtenacker, R. S., Forest Products Laboratory Report, undated.
6. Military Specification MIL-P-3803, Sept., 1952.
7. Tibbetts, W., unpublished data.
8. Schuler, S. C., and German, G., *TRE-Technical Note No. 27*, Feb., 1949.
9. Military Specification MIL-B-131.
10. Reinhart, F., and Slone, M. C., unpublished data.
11. De Neale, M. M., Naval Gun Factory Test, 1st Report No. 95-47, 1947; 2nd Report, Aug., 1948.

A discussion of flexible barriers for military packaging, presenting criteria for their selection and use, will appear in an early issue.—ED.

Correction

The supplier of auger powder fillers used by Shulton, Inc., was incorrectly identified in the September issue (*Packaging's Hall of Fame*, p. 102). These machines are supplied to Shulton by the Stokes & Smith Co., 4900 Summerdale Ave., Philadelphia 24.

Better industrial

(This article continued from page 109)

with us for a long time. Even the current trend toward somewhat reduced defense budgets will not be felt in packaging for some time, because the material provided for in past budgets is just now coming to the packaging stage. The expenditure for packaging alone on military supplies will continue to be counted in billions per year as long as we maintain a "ready-for-combat" force of almost 4,000,000 men.

Preservation and packaging of military supplies continues to be a headache to many contractors. But some of the confusion and competition is slowly being ironed out. The military services are beginning to make good use of their various co-ordinating committees to dispense packaging information to industry and are also profiting from the cooperation of trade associations.

The trend is toward over-all Federal specifications for packaging, including both military and civilian supplies. Recently a special category for packaging specifications was set up; all of them are eventually to carry the prefix "PPP."

The most revolutionary development in military packaging methods is the greatly increased use of volatile corrosion inhibitors. Typical packaging uses have been discussed and referred to in preceding sections of this article; military applications are very similar. But worth noting as a further military development is the use of VCI materials for long-term-storage packaging—an increasing problem in the present military situation.

At the Marietta Pennsylvania Transportation Corps Depot some $50-million worth of machine tools and precision components, and equipment as big as locomotives, are now effectively preserved and stored in the open—thanks to VCI and other advanced preservative methods. With the current narrowing of the defense-production base cutting or canceling many contracts, this means of packaging and preserving machine tools may be of great interest to industry.

Reduction in tare weight and container cubage has been receiving intensive study by all the military services. It is expected that the military will make much wider use of the new kraft-veneer container material, mentioned above. Intensive study and

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EVERYTHING about this salespackage . . . container, closure, label design . . . is geared to sell instant silver cleaner.

The *glass container* has a wide mouth opening so that small items can be dipped right into the cleaner; *metal closure* is easy to price mark . . . won't stick . . . reseals tightly; *label design* gives package dramatic impact and display value at the point of sale.

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evaluation of this material by the services is now under way.

Most of the asphalt-laminated papers that require reinforcing fibres for military use are now employing glass rather than vegetable fibres. The Air Force and the Navy Bureau of Ordnance have been conducting exhaustive studies of the cushioning properties of glass wool and are said to be satisfied that the material presents no skin-irritation hazards.

There is renewed interest in the preservation of military material by means of hot-dip plastics or strip coatings. A recent revision of the Defense Department's basic specification covering methods of preservation has established three different methods for these materials, including the use of cellulose acetate butyrate. Approval of the contracting agency is still required, however, for any use of strip coatings.

The services are exploring the possibility of more fully mechanizing preservation and packaging lines. There seems to be a tendency to lean toward methods of packaging that employ mechanically fabricated materials rather than the laborious combinations of wrapping and wax dipping familiar in the past.

In any consideration of military packaging methods, it should be borne in mind that the required period of preservation is now years rather than months. The target for military package shelf life generally mentioned in Washington now is 10 years, whereas a few years ago 18 months was considered the optimum.

Engineered crates

(This article continued from page 169)

on each face and on each end of the crate.

Seven different models of mine fairings packed in wirebound crates were tested according to the above procedure and passed the tests satisfactorily, without damage to the crate or to the mine fairing.

Some of the benefits derived from the use of a wirebound crate for packing and shipping a mine fairing can be shown by comparing it with a proposed wooden crate of nailed construction capable of giving performance equal to that of the wirebound crate. This crate is shown in Fig. 6. A comparison of the proposed nailed crate and of the wirebound

crate appears in Table I herewith.

Although the results given in Table I are for one type of mine fairing, they are typical for all other models. Savings on first cost and in manhours

TABLE I—COMPARISON OF CRATES FOR MINE FAIRING XM-2B

	Nailed crate	*Wirebound crate*	*Savings, %*
Tare weight	78 lbs.	51½ lbs.	34
Gross weight	133 lbs.	106⅝ lbs.	20
Displacement	26.0 cu. ft.	22.6 cu. ft.	13
Assembling and closing operations:			
Drive nails	172	16	—
Apply straps	3	0	
Close wire loops	0	9	

of time in assembling, packing and closing are also realized.

It may be well to explain the differences in holding the mine fairing in position in the two crates just compared. In the wirebound crate (Fig. 4), the mine fairing is simply placed between the two rows of intermediate cleats which are part of the crate structure. These cleats, completely enclosing the square part of the aft section, prevent the mine fairing from shifting in any direction. In the nailed crate (Fig. 6) the mine fairing must be positioned by means of curve-sawn saddles which fit into the cylindrical groove on the mine fairing, as seen in Fig. 1. These saddles must be positioned and nailed in place on the packing line, this being part of the packing operation. Movement of the mine fairing in the nailed crate must be further prevented by the addition of four interior battens at the square part of the fairing, as shown in Fig. 6.

As indicated in the above example, it is customary, in designing wirebound crates, to combine the method of supporting the contents in the crate with the design of the structural members of the crate, thus making these members serve two purposes. This procedure usually results in the greatest possible economy: minimum use of lumber, minimum net weight and minimum manhours on the packing line. These, in turn, reflect a lower cost of the crate, lower cost of assembling, packing and closing, and lower freight charges.

Plax-O.I. deal OK'd

A transaction in which the Owens-Illinois Glass Co., Toledo, acquires 250,000 shares of common stock in Plax Corp., Hartford, at a price of $8,000,000 was approved by U. S. District Court in Toledo Sept. 15 and the deal has been consummated.

Approval was necessary under the Hartford-Empire anti-trust settlement of 1937. Plax, leading maker of polyethylene squeeze bottles, has been a wholly owned subsidiary of Emhart Mfg. Co., successor company to Hartford-Empire. The court held that the Owens-Illinois investment in Plax had no bearing on the 1937 agreement.

According to a statement issued by Plax Corp., the stock sold to Owens-Illinois is newly issued and is equal in amount to the Plax stock owned by Emhart. It is expected, the statement says, that a small amount of Plax stock will be issued to one or more members of Plax management. Emhart has not sold any of its Plax stock, all money from the sale going to Plax.

Owens-Illinois has stated that its interest in Plax "will in no way affect the operations of Owens-Illinois in the packaging and closure fields."

Packaging report

The truce in Korea has had no immediate effect upon container operations, according to the Autumn, 1953, edition of the U. S. Dept. of Commerce publication, "Containers and Packaging Industry Report." However, it has made it necessary for container management to finalize policies and actions regarding the future course of business. Many industries, the report states, are undertaking programs to determine (1) the historical growth pattern compared with competition and the total economic growth and (2) the relative position in the current business pattern. Correct appraisal of these two points provides positive basis for answering the major consideration—the future course of action.

Estimates of second-quarter 1953 container business range upward from the 1952 totals. Shipments of glass containers, milk cans, steel drums, steel packages, kegs and pails, for example, increased 2.7%, 43.7%, 4.6% and 20.6%, respectively. Other increases include 20 to 25% for steel strapping, 19.7% for metal caps, 3.8% for milk-bottle crates, 9.3% for wirebound boxes and crates, 55.2% for aluminum foil,

7.5% for metal cans and 6.8% for collapsible tubes. Fibre can and tube sales increased approximately 22%, folding paper boxes by 15.9% and corrugated shipping containers 19.7%. The Commerce Department believes that the continued acceleration of general business activity was primarily responsible for the improved container business.

Inventories of container manufacturers and users were tightly scheduled and in balance, although at a somewhat lower level than in previous periods. This position was assumed largely as the result of an easier supply of materials, together with improved deliveries, the report continues. Steel and polyethylene were exceptions.

With the economics largely favorable for a continuation of healthy business condition, the Commerce Department feels that it behooves management to scrutinize both their policies and methods of operation. The extent and direction of a manufacturer's long-term growth pattern will be determined by his ability to recognize and provide for the growing demand for progressive packaging.

Increased can usage

Development programs involving both container and packaging equipment have vastly expanded the use of metal cans for a greater number of food products, according to Roger V. Wilson, director of customer research for Continental Can Co., New York, speaking before members of the Symposium of Technology of Food Packaging Materials at the 124th annual meeting of the American Chemical Society in Chicago recently.

"Most of the developments, even though commercially acceptable in their present form, continue to be studied so that greater latitude and even better quality may be provided for an extremely critical group of products," Mr. Wilson said. He described in detail such recent projects as the development of the low metal exposure can and special metal containers for coffee, shortening, whipping cream and other pressure-dispensed foods.

Mr. Wilson added that countless development programs by the can industry should, in the future, make it possible for more and more users to capitalize on the economies, convenience and sales appeal of cans.

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PONY LABELRITES: Factory rebuilt, one year "new machine" guarantee. New Jersey Machine Corporation, 16th Street & Willow Avenue, Hoboken, New Jersey.

FOR SALE: Ruf Cellophane slitter 26" completely equipped, practically new. Reasonable price. Also Model I Simplex cellophane bag machine. Good working condition. Cheap. Peninsular Package Products, Inc., 3745 N. W. 50th Street, Miami, Fla.

FOR SALE: Triangle SPA Fillers. Pack-Rite Rotary Speed Sealers. Pack-Rite Conveyors. Triumph Bucket Elevator 36' high. Triumph Bucket Elevator 10' high. Storage Hoppers. 6 Head Stainless M & S Filler. Richardson Automatic Scale 50 lb. capacity. Box 624, Modern Packaging.

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International S. S. Straightline Vacuum Filler. Resina LC and S automatic Cappers. Oliver Model 799E automatic cellophane Wrapper. Stokes and Smith Transwrap Fillers. Stokes & Smith GI and HG88 Auger Powder Fillers. Triangle Elec-Tri-Pak G2C, A6CA Fillers. Filler 4-Head and Hope 6-Head S. S. Fillers. Knapp 429 and Ceco Carton Closers. Pony ML and M Labelrites. Ceco, Redington and R. A. Jones Cartoning Units. Package Machinery Co. DF and FA Wrappers. Hayssen 3-7, 7-11, 11-18 Automatic Cellophane Wrappers. Burt adjustable Wraparound Labeler. Hudson Sharp Campbell Auto. Cellophane Wrapper. This is only a partial list. Tell us your requirements.

Union Standard Equipment Company
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FOR SALE

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HIGH SPEED "UNIVERSAL JET" CELLOPHANE BAG MACHINE: Makes flat, square, duplex and combination bags. Heat & glue seal. Also can handle other materials. Delivery from cylinder to table in upright position. Equipped with Two-Way Electronic register control, Reeves drive, Wheelco Instrument heater control and offset counter. Priced for immediate sale. Box 633, Modern Packaging.

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WANTED: Cameron Slitter, Packaging Line, Labeler, Capper, and Mixer. Box 621, Modern Packaging.

WANTED: Taber Thermo-Beader, single or double edge, also Taber Thermo-Folder, any model. Box 627, Modern Packaging.

WANTED: Extruder to produce polyethylene tubular film. Must be in good condition. Box 628, Modern Packaging.

HELP WANTED

WANTED: An alert contact man to sell expensive and medium priced custom made specialty boxes made of velvet, plastic and velours. Must have a following. Commission only. Box 623, Modern Packaging.

A PACKAGING SALESMAN WHO IS READY FOR PROMOTION

The man we seek is doing a good job selling folding boxes, cartons and packaging specialties. He's probably on the sunny side of forty; with a background which includes a sound working knowledge of carton sales and production problems. Perhaps his big organization put him on the firing line to prepare him for an executive assignment which has been too long delayed. Today he has no illusions of grandeur, yet he knows he is ready for a job of assistant to the Sales Manager. Our completely integrated operation is located comfortably in a medium sized midwestern city. We sell nationally. Our executive staff is small. All this adds up to an unusual spot for a chap who has what it takes and can present it in a complete sales letter which will set the stage for a personal interview. Start writing and don't spare details including your idea of compensation.

Box 639, Modern Packaging

PLANT-PRODUCTION MANAGER: Required for rapidly expanding contract packager in Los Angeles, specializing in bottling and Transwrap packaging. Salary open. Box 640, Modern Packaging.

SALES REPRESENTATION: Due to recent expansion program, established converter of cellophane and polyethylene has several openings for experienced volume producers only to sell complete line of printed rolls, sheets, bags and envelopes including six color printing and hosiery envelopes. Excellent opportunities for the right man. Box 632, Modern Packaging.

SALESMEN - REPRESENTATIVES

Experienced packaging sales people wanted to sell cylindrical polyethylene drum liners, polyethylene coated cellophane bags and specially constructed pouches for the textile industry, as well as standard bags, tubes, sheets and rolls of cellophane, polyethylene, acetate and foil. Write in detail to:

Diaphane Corporation
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SALES REPRESENTATIVE

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Box 638, Modern Packaging

SITUATIONS WANTED

SITUATION WANTED: Designer experienced on diverse accounts, seeks challenging assignments by mail. Background as marketing and merchandising counselor assures imaginative flair with built-in sell. Send all details to Bert Eifer, 6404 Cleo St., San Diego 15, Calif.

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FOLDING CARTON SALES POSITION: Desired in lucrative New York area by Sales Executives' assistant. Age 32. Inside duties don't warrant opportunity. Acknowledged profit producer. Proven ability in estimating, production knowhow. Sales planning and pricing. Qualified educational and trade background. Sound stick-to-it enthusiasm. Best references. Box 629, Modern Packaging.

CREATIVE SALESMAN: Age 29; five year record of success selling seasonal and custom displays to national advertisers. Intelligent, aggresive, flexible. Have created own prospects and followed through to profitable sales. Interested in joining display-packaging firm seeking sales talent. New York City resident, Box 635, Modern Packaging.

PACKAGE DESIGNER: Ten years experience with leading designers and manufacturers. Creative and versatile in all media; from idea to finished art work including lettering, effectively applied to packages, labels, trademarks, letterheads, logotypes for cosmetics, pharmaceutical products, food, liquor, tobacco, candies, textiles, etc. Now available for top position or free lance. Box 636, Modern Packaging.

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OCTOBER 1953

Modern packaging

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Smart merchandising idea:

How Sears sells tool sets

in eye-catching cases of

LUSTREX Styrene Plastic

Guaranteed by Good Housekeeping

Quick to sense sales opportunities in the current trend to "do-it-yourself," Sears sells woodworking kits for the home handyman in eye-catching cases molded of Monsanto Lustrex styrene plastic. The lustrous, transparent cover makes each container a counter display – lets the full set of Craftsman Power Wood Bits get into the selling act.

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Also see our ad on pages 40 and 41.